



Sodium and Diabetes: Too much of a good thing

Sodium is an essential mineral required for the body. It is vital for regulating body fluids and blood pressure and to help the functioning of muscles and nerves. However, too much sodium can have serious consequences, especially in people with diabetes.

Dietary sodium is associated with hypertension as well as other health conditions, including asthma, osteoporosis, gastric cancer, kidney stones and obesityⁱ. Hypertension is the most common chronic disease among adults but generally is not well managed.

For people with diabetes, hypertension, if left untreated, is a major risk factor for both the development and progression of retinopathy.ⁱⁱ For people with diabetes, hypertension is often present, and their risk of heart disease and stroke is two to three times that of those without diabetesⁱⁱⁱ. Sodium-reduction is an efficient and effective strategy in reversing the effects of hypertension and cardiovascular disease.

The following information can help guide your food choices as you contemplate what strategies work best for you:

A. The following table shows the recommended intake for sodium:

Healthy	Should aim for the Adequate Intake (AI) of	Without going over the Upper Limit (UL) of
Infants 0-6 months	120 mg/day	No data
Infants 7-12 months	370 mg/day	No data
Children 1-3 years	1000mg/day	1500 mg/day
Children 4 – 8 years	1200 mg/day	1900 mg/day
Teens 9-13 years	1500 mg	2200/mg/day
Adults 14-50years	1500 mg	2300 mg/day
Older adults 51-70 years	1300 mg	
Older adults over 70 years	1200 mg	

- B. Even though Canadians (included are Canadians with diabetes) are aware that the population's sodium content was high, those Canadians did not see it as their problem.^{iv} Although many have decided not to put salt on the table and in cooking, they continue to buy high sodium, processed foods such as:
- **Processed and prepared foods.** The vast majority of sodium in the typical diet comes from foods that are processed and prepared. These foods are typically high in salt, which is a combination of sodium and chloride, and in additives that contain sodium. Processed foods include bread, prepared dinners like pasta, meat and egg dishes, pizza, cold cuts and bacon, cheese, soups, and fast foods.
 - **Natural sources.** Some foods naturally contain sodium. These include all vegetables and dairy products such as milk, meat and shellfish. While they don't have an abundance of sodium, eating these foods does add to your overall

sodium intake. For example, 1 cup (237 milliliters) of low-fat milk has about 107 mg of sodium.

- **In the kitchen and at the table.** Many recipes call for salt, and many people also salt their food at the table. Condiments may also contain sodium. One tablespoon (15 milliliters) of soy sauce, for example, has about 1,000 mg of sodium.

There are strategies that you can use to help reduce your sodium intake. You can decide to make some choices about what you put into your body. For instance, instead of salting your food, use herbs and spices instead to jazz up standard recipes. Try ginger, curry, dill and garlic or cinnamon and nutmeg or lemon juice or vinegar in some recipes. Check the labels – read the Nutrition Facts Panel and look for foods labeled “low sodium” or “no salt added”. Go easy on sauces. Prepared sauces and condiments, such as ketchup, hoisin and soy are especially high in sodium. Here’s where you can choose some alternatives, such as spices, lemon juice or lime zest. Watch canned products. Purchase those with the lowest sodium content, then rinse foods whenever possible for further reduce sodium. Use fresh and frozen produce, dried beans and lentils because they are generally contain no added salt.

Sodium can have a negative impact on health. To change that and if the average sodium intake is decrease by 1840 mg a day, high blood pressure (hypertension) would decrease by 30%. This would result in approximately one million fewer Canadians with high blood pressure and direct annual cost savings of \$430 million due to fewer physician visits, laboratory tests and medication.

Reduction in the rates of hypertension, especially in people with diabetes can significantly decrease the risk of developing diabetes and progression of its complications. Thus, reducing sodium intake is a highly cost –effective strategy to reduce the costs of cardiovascular disease through a reduction in blood pressure.^{vi} For more information, visit the Health Canada website: <http://www.hc-sc.gc.ca>. or contact: sodium@hc-sc.gc.ca.

ⁱ Dietary sodium, hypertension and health. Hypertension Canada website. http://www.lowersodium.ca/uploads/ShorBackground_July_2010.pdf.

ⁱⁱ Wong T, Mitchell P. The eye in hypertension. *Lancet*. 2007; 369 (9559): 425-435.

ⁱⁱⁱ Kraft foods. Healthy Living. LivingWell with diabetes. Spring/summer. canada.com/diabetes

^{iv} Health Canada website. <http://www.hc-sc.gc.ca/fn-an/nutrition/sodium/sodium-intake-apport-reduction/index-eng.php>.

^v Ibid.

^{vi} Dietary sodium, hypertension and health. Hypertension Canada website. http://www.lowersodium.ca/uploads/ShorBackground-July_2010.pdf.