



CANADIAN

# STROKE NETWORK

REDUCING THE IMPACT OF STROKE

WINTER 2007/2008 VOLUME 7 NUMBER 2

## SODIUM KILLS 30 CANADIANS EVERY DAY



### SHAKEDOWN ON SALT

CSN leads fight against  
food additive.

### FAILING THE SODIUM CHALLENGE

Eating low-salt harder  
than you think.

### SALT COMES OUT IN WASH

Global campaign  
brings progress.



CANADIAN  
STROKE NETWORK

## MISSION

To reduce the impact of stroke on Canadians through collaborations that create valuable new knowledge in stroke; to ensure the best knowledge is applied; and to build Canadian capacity in stroke.

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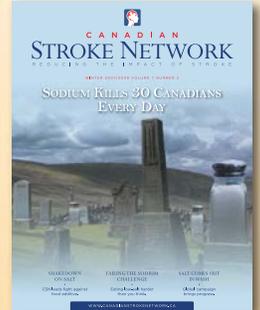
Publication Mail Agreement Number  
40609522

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**ON THE COVER:**  
Sodium kills 30 Canadians a day\*

\* Unpublished projections based on reducing average daily sodium consumption by 2,000 mg (or 5 g salt) from current levels of approximately 3,500 mg per day (*Statistics Canada Health Reports. 2007;18:47-52*) to 1,500 mg per day. According to He and MacGregor (*Hypertension. 2003;42:1093-1099*) this would be expected to reduce stroke death by 20.3% and ischemic heart disease (IHD) death by 14.8%. An annual death rate per year of 15,409 for stroke and 42,619 for IHD was assumed based on Statistics Canada data for 2002 (*Heart and Stroke foundation of Canada: The Growing Burden of Heart Disease and Stroke in Canada 2003. Ottawa, Canada. 2003*).

### GETTING SAVVY ABOUT SODIUM IN FOODS

By Dr. Kevin Willis

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### REDUCTIONS NEEDED IN THE SODIUM ADDED TO FOODS

Lowering dietary salt intake would save lives, reduce medical costs, health groups say

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Dr. Antoine Hakim

“Canadian food products are among the saltiest in the world and the average Canadian consumes more than double the healthy level of sodium a day.”

## THE SHAKEDOWN ON SALT

*CSN leads fight against harmful food additive*



The Canadian Stroke Network is working to reduce sodium levels in processed, packaged and fast foods because it hopes to prevent strokes in thousands of Canadians.

“When you look at various opportunities to try to reduce hypertension, sodium stands out as being unique,” says Dr. Antoine Hakim, CEO and Scientific Director of the CSN. “The impact will be at a population level.”

High blood pressure, or hypertension, is a treatable condition that leads to more than half of the 50,000 strokes in Canada every year.

One in four adult Canadians has hypertension – about 5.3 million people. A third of those people could eliminate the problem by consuming an Adequate Daily Intake of 1,200-1,500 mg a day of dietary sodium.

But cutting sodium intake is a difficult thing. Sodium is hidden in much of the food that we eat – even in seemingly healthy things like cereal, breads, vegetable soups and muffins. It is a cheap preservative and flavor enhancer for products that don’t always contain top-quality ingredients. In processed meats, it is used to bind water to boost the weight of the product.

According to recent surveys, Canadian food products are among the saltiest in the world and the average Canadian consumes more than double the healthy level of sodium a day.

The Canadian Stroke Network (CSN) wants to flush high salt levels from our food supply.

The Network took up the sodium issue in 2005 when it initiated discussions with University of Calgary hypertension expert Dr.

Norm Campbell, who was later awarded the CIHR Chair in Hypertension Prevention and Control.

Next, CSN management reviewed the evidence around sodium and began to urge Health Canada to include warnings about sodium in Canada’s Food Guide.

“Working with our partners, we were successful in convincing Health Canada officials that, for the first time, sodium should be included in the new Food Guide,” says CSN Executive Director Katie Lafferty.

The CSN also contacted news media about the issue and highlighted the health risks associated with “hidden salt.”

Together with Blood Pressure Canada, the CSN partnered with UK-based World Action on Salt and Health (WASH) on



“By cutting hidden salt in processed foods, we will not only make an impact on the incidence of stroke but also other health conditions.”

international efforts, including publicizing a country-by-country comparison on salt levels in processed foods.

On the national scene, the Network supported the formation of the Sodium Strategic Planning Committee, which brought together health groups to discuss the issue. And, it was a leader in the formation of a National Sodium Task Force to meet with food industry officials. Dr. Kevin Willis, CSN director of partnerships, took an active role.

In 2007, WASH president Dr. Graham MacGregor spoke at the CSN annual meeting and highlighted the latest research evidence on sodium risks.

Later, the Network coordinated media coverage around a National Sodium Policy statement for Canada, released by 17 health groups and professional associations, and welcomed the appointment of a federal working group, established by Health Minister Tony Clement to study the issue.

“By cutting hidden salt in processed foods, we will not only make an impact on the incidence of stroke but also other health conditions, including heart and kidney diseases, stomach cancer and dementia,” Dr. Hakim says. “Reducing the sodium in our food supply will have a dramatic impact on the burden of chronic disease in Canada.” 🍀

## SALT AND SODIUM:

### Salt is sodium chloride.

- 1 level teaspoon of salt contains just over 6 grams of salt
- 6 grams of salt contains about 2,300 milligrams (mg) of sodium
- 2,300 mg is the Tolerable Upper Intake Level of dietary sodium – the maximum amount per day compatible with good health

### National guidelines for Adequate Intakes of sodium by age:

- 1-3 years: 1,000 mg per day
- 4-8 years: 1,200 mg per day
- 9-50 years: 1,500 mg per day
- 50-70 years: 1,300 mg per day
- 70 years: 1,200 mg per day

## IN THE NEWS:

Health Minister Tony Clement says sodium is a bigger health threat than artery-plugging trans fats. “It’s almost become a silent invader of our food supply, and only now are we seeing the consequences of it.”

*CanWest News Service - Oct. 26, 2007*



## GETTING SAVVY ABOUT SODIUM IN FOODS

By Dr. Kevin Willis



Dr. Kevin Willis

According to Statistics Canada the average Canadian consumes over 3,000 mg of sodium a day – more than twice the Adequate Intake for adults of 1,200 to 1,500 mg per day. This excess sodium raises blood pressure and increases the risk of stroke and heart disease. Research shows that cutting consumption from current levels to the Adequate Intake would reduce hypertension in Canada by 30%. People who successfully reduced their long term sodium intake decreased their chances of developing heart disease and stroke by 25% over the following 10 – 15 years.

While salt (sodium chloride) is the principal source of dietary sodium, many people do not realize that it is the “hidden” salt in processed foods that accounts for over 75% of our sodium intake. This has prompted the World Health Organization (WHO) to call on multinational food companies to lower the sodium content of their products to the lowest possible level. In a 2007 report, WHO also called for legislation if the food industry does not respond.

Unprocessed foods typically contain very little sodium. A raw tomato contains 5 mg of sodium, an egg 50 mg, a single serving of ground beef 45 mg, and orange just 1 mg. In contrast, processed foods such as canned and packaged foods, ready-prepared meals, pizzas and sandwiches, and take-out food can contain staggering amounts of sodium.

A quick lunch? Warm up a cup of Knorr Spring Pea ready-to-serve soup – 970 mg sodium; grab a Ham and Swiss sandwich at Tim Horton’s – 1,690 mg of sodium; or how about a couple of slices of a small Pizza Pizza Meat Supreme – 1,720 mg of sodium. Dinner at Swiss Chalet? I’ll have the Sun-dried Garlic Cheese Loaf to start – 1,590 mg sodium. Then the Vegetable Stir Fry with Grilled Chicken Breast on a bed of Rice Pilaf – 3,230 mg sodium, and a slice of Carrot Cake for dessert – 260 mg sodium. The dinner total 5,080 mg sodium, more than 3 days worth in a single meal! Did you want sodium with that?

So how much sodium is too much? Remember that the Adequate Daily Total Intake for persons aged 9-50 is 1,500 mg decreasing to 1,200 mg for those 70 and over. Canada’s Food Guide advises adults to consume a total of around 20 servings of food per day, so a healthy amount of sodium per Food Guide Serving is approximately 100 mg. Processed foods that contain over 400 mg (over 30% of an Adequate Daily Intake) in a single serving are high salt foods and should be avoided.

Given the importance of diet in determining your health, it is a scandal that nutritional and serving size information is not usually available for take-out and restaurant food, but when shopping in the super-market you can use the Nutritional Facts information on the food labels to choose healthier options.

When checking sodium levels the savvy shopper focuses firstly on the number of mg listed for sodium in the Nutritional Facts table. This is the amount of sodium per unit of food or serving size: less than 200 mg is good (green light); 200 – 400 mg is medium (amber light); and over 400 mg is high (red light). Note that the % Daily Value listed for sodium should be ignored since, unfortunately, it is not based on a healthy target daily sodium intake and gives a misleading underestimate of the sodium content!

The second important piece of information is the unit of food or serving size. This tells us how much food the Nutritional Facts table is referring to—for example per ½ cup (125 ml), or per 50 g, or per whole tortilla, etc. Packets and cans typically contain multiple servings or units, so you will have to multiply the sodium number by the number of units or servings you plan to consume in order to get the sodium total.

To aid in planning a low sodium and healthy diet follow Canada’s Food Guide, but be aware that Food Guide servings are often smaller than the serving sizes or units of food referenced in the





## How much sodium is in your food?

Visit Health Canada's Canadian Nutrient File website and search food categories (such as fast foods, snacks and breakfast cereals) by sodium content. The results may be surprising!

[www.hc-sc.gc.ca/fn-an/nutrition/fiche-nutri-data/index\\_e.html](http://www.hc-sc.gc.ca/fn-an/nutrition/fiche-nutri-data/index_e.html)

Nutritional Facts table. For example, one Food Guide serving of whole wheat tortilla is ½ a piece, 35g. However, Canada's food labeling regulations allow a tortilla of up to 100 g, or almost 3 Food Guide servings, to be considered a "serving" or unit of food for the purposes of constructing the Nutritional Facts table.

While other countries—most notably the U.K.—are taking the aggressive action required on dietary sodium, Canada is moving slowly. Clearly reforms are urgently needed to:

- pressure the food industry to reduce the sodium content of their products, with legislation to follow if voluntary efforts are ineffective;
- make nutritional information readily available to consumers of take-out and restaurant food; and
- revise the nutritional labeling so consumers can easily determine if food products contain high, medium or low amounts of sodium.

Don't wait for these reforms; you can take action now to lower your risk of stroke and heart disease by reducing your sodium intake! Here are some easy steps:

- read the food labels and always choose lower sodium options;
- avoid high sodium foods that contain over 400 mg sodium per serving;

- add progressively less salt when cooking and at the table – as you get used to the taste cut it out completely;
- try to eat less processed "convenience" foods and watch out for the salty foods such as soups, bacon, pepperoni and cheese when eating out; and
- eat more unprocessed fruit and vegetables as these are good for your health and naturally low in sodium. 🍅



### Fact:

**5,269,508**

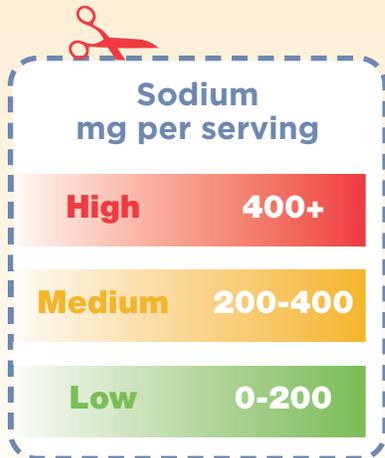
Number of adults (20-plus) who had or had been diagnosed with high blood pressure, in Canada in 2005. Almost one in four adults.

*Source: Canadian Community Health Survey data, Statistics Canada*



## FOOD LABELING NEEDS IMPROVEMENT

*“Healthy choices should be fast and easy”*



The Canadian Stroke Network is promoting improvements to the food-labeling system in Canada through easy-to-understand nutrition information on food, packaging.

Under the existing system, it is difficult for consumers to recognize which products are high or low in salt. Not only that, serving sizes on packages often do not correspond with those in Canada’s Food Guide, and some food companies label items as ‘healthy choices’ despite the fact that they contain much more sodium than other products in the same category.

“The U.K.’s traffic-light approach is one way of making food labels easier to understand,” says Kevin Willis of the Canadian Stroke Network. “This system is also being adopted in New Zealand and it is just starting to be considered by the Food and Drug Administration in the U.S.”

The traffic-light system uses red, amber and green coding to indicate whether a food has high, medium

or low levels of fat, saturated fat, sugar and salt. For example, in the case of sodium content:

- green-light foods contain less than 200 mg of sodium per serving and can be eaten regularly;
- amber-light foods (200-400 mg of sodium per serving) are to be eaten less frequently; and
- red lights indicate that a food contains more than 400 mg of sodium per serving and should be eaten only on occasion.

One serving of a high salt food product (greater than 400 mg sodium per serving) represents almost one third of the recommended target sodium intake for the entire day.

The U.K. Food Standards Agency tested the traffic-light system and supported it for the simplicity of use. However, other systems are also in development around the world as countries recognize the need to guide consumers. “Most of us lead very busy lives, so making healthier choices in the supermarket needs to be fast and easy,” Dr. Willis says. 🍷

## FAILING THE SODIUM CHALLENGE

*Eating low-salt is harder than you think*

By Mike Sornberger

Like most Canadians, my weekday meals are often consumed on the fly.

In the morning, a bowl of flakes is a pretty typical fare. Noontime might mean a fast-food sandwich or a brown-bag lunch. For dinner, it may be something like store-bought pasta sauce over a bed of noodles with a few chopped veggies on the side.

And with a family history of stroke and heart disease, the salt shaker does not have a place of honour at my dinner table. In fact, I keep it tucked away in a cupboard for when we have company.

All in all, a pretty healthy lifestyle. At least, that’s what I thought.

So when the Canadian Stroke Network challenged me to monitor a regular day’s meals and calculate whether I could stay within the recommended daily healthy intake of sodium – about 1,500 milligrams – I thought I would pass with ease. I’m a healthy young guy, a recent graduate of Dalhousie University and my mother raised me to eat right.

Turns out I failed. Badly. Without even reaching for the shaker I ended up consuming more than 2,750



mg of sodium while actually trying to make good food choices.

I had started the day with a bowl of Special K with milk, and a glass of orange juice. I ate the recommended serving size on the side of the box: 1 ¼ cup of cereal (with ½ cup of milk). At lunchtime, I ate a turkey sandwich, some chopped celery and a cup of minestrone soup, with an apple for dessert. For dinner, I ate one cup of whole wheat pasta with meat sauce. The sauce itself was store-bought, and I added the meat myself: ½ cup of extra lean ground chicken. I snacked a bit in the afternoon – some carrot sticks, no dip. I also had some grapes before bed to tide me over until breakfast.

The day was unsatisfying. I didn't eat as much as I do on a normal day. I didn't get enough milk products. By snacking on fruit and vegetables, I made sure that I got some nutrition, but with small serving sizes and very limited snacking, it's not a diet I think I could live on forever. That said, I must have been within the healthy zone of sodium intake, right? Wrong. When I calculated the total sodium in my food for the day, I found that I was over the upper limit at 2,750 mg.

So how did it happen? The two biggest contributors of sodium in my day's diet were the pasta sauce and the soup. But the reality is, there is plenty of salt hiding in most foods we routinely eat.

I went to the source – my neighbourhood grocery store – and I found a few interesting things. First of all, foods that say “healthy” on the box may not be. The vegetable juice V8 has 520 mg of sodium per cup. The new V8 V-Plus, which says “Low sodium” in big letters on the front, is an improvement at 135 mg per cup. Compare this to Tropicana's 100% apple juice – the

sole ingredient of which is apples. It has just 15 mg per cup.

Soups are another big culprit. No-name brand Vegetable Beef soup from Loblaw's has 710 mg in a single-serving size of one half cup. If I was making this soup for dinner, I'd eat at least a full cup and get my total daily intake of sodium in one bowl.

Frozen meals with “healthy” labels are often laden with sodium. A single-serving box of Michelin's “Advantage” Honey Dijon Chicken (part of the company's healthy menu) has 960 mg of sodium. This one small portion amounts to nearly two thirds of the day's maximum sodium intake.

I tried to find healthy alternatives, starting in the cereal aisle. What was most surprising, was that the cereals I thought were the healthiest had the most sodium: Raisin Bran (340 mg/cup), Rice Krispies (310 mg/cup) and Shreddies (310 mg/cup), for example. The one with the least sodium? Froot Loops at 147 mg per cup.

Bread is another surprise. One large Dempster's tortilla contains 308 mg, or a quarter of the daily intake. Most guys I know would eat one or two tortillas for dinner and load them with salsa and cheese and hamburger and refried beans. That meal alone would push them into high-sodium territory.

Packaged cold cuts are another offender – no brand seems to offer a low sodium choice, as most come in at around 300 mg

in each individual slice. And no one I know makes a one-slice sandwich.

And, there are huge variations in the amount of sodium in pasta sauces. The Primo Tomato and Basil sauce that I bought had 590 mg per half cup. The same amount of Classico Tomato and Basil sauce had nearly half that amount – 320 mg.

Given the amount of sodium added by the food industry to the food that we usually



Mike Sornberger

eat, I think something needs to be done before it hits grocery store shelves. Because despite four years of university science, I was unprepared for the challenge of reading a nutrition label, the division of milligrams per millilitre and the correlation between serving size and sodium level.

The fact is, it's difficult to follow a lower-sodium diet given the amount of salt added in the processing of food. You may think you're eating healthy – while actually loading up on salt. I know I was. 🍷



## REDUCTIONS NEEDED IN THE SODIUM ADDED TO FOODS

*Lowering dietary salt intake would save lives, reduce medical costs, health groups say*



Dr. Norm Campbell

In an effort to save lives and reduce disability from stroke and heart disease, 17 of Canada's leading health groups and professional associations have urged comprehensive action to reduce sodium levels in food.

"Increased blood pressure is the leading risk factor for death, causing most of the strokes and much of the heart disease our country faces," says hypertension expert Dr. Norm Campbell, a member of the Canadian Stroke Network's planning and priorities committee and president of Blood Pressure Canada. "It is estimated that almost one in three Canadians who have hypertension would have normal blood pressure if there was less sodium in our food."

The Canadian Stroke Network, Blood Pressure Canada, Heart and Stroke Foundation of Canada, Canadian Medical Association, Canadian Public Health Association and Dietitians of Canada are among signatories of the policy.

Health Canada and the U.S. National Institutes of Health have determined the Adequate Daily Intake

range for a healthy adult is 1,200 mg to 1,500 mg of sodium. According to Statistics Canada, the average Canadian consumes 3,100 mg of sodium a day, the vast majority of which is hidden in processed foods. Research shows that lowering sodium consumption to Adequate Intake levels could reduce the incidence of stroke and heart disease by as much as 30 per cent.

"The individual can only do so much and now more food companies have to step up," says Dr. Kevin Willis, Director of Partnerships at the Canadian Stroke Network. "If we discovered that a food additive was causing 30 per cent of all cancers, something would be done right away. The same action is needed with sodium to prevent stroke, heart disease and other vascular illnesses."

More Canadians are eating prepared, pre-packaged and processed foods and, as a result, the level of dietary sodium is excessively high. Results from the 2004 Canadian Community Health Survey indicate that, among people ages 19 to 70, more than 85 per cent of men and 60 per cent of women consume well above the maximum daily level of sodium.

"Canada's physicians are concerned about the epidemic of hypertension in this country, the number of people who now require treatment and the high burden of disease. And Canada's physicians are committed to addressing the underlying causes of this public health issue.

One of the most important lifestyle changes required for the reduction of hypertension is to watch what we eat - and that involves cutting back on sodium."

- William Tholl - CEO, Canadian Medical Association



“Research shows that lowering sodium consumption to healthy levels would bring dramatic public health benefits, reducing the number of persons with hypertension by 30 per cent – over a million fewer hypertensive people in Canada.”

– Dr. Norm Campbell, President, Blood Pressure Canada



“While some companies have been leaders in reformulating their products, we still have a long way to go, and we have to start making significant reductions to get there,” says Sally Brown, CEO of the Heart and Stroke Foundation of Canada.

Health groups applauded a recent announcement by Minister of Health Tony Clement to establish an expert Sodium Working Group as a first step towards the development of a long-term national strategy to reduce dietary sodium levels.

“Cardiovascular diseases are the number one cause of death for Canadians, and sodium intake is one of the largest controllable factors that contribute to these diseases,” said Minister Clement. “Through the formation of this working group, our Government is taking a major step in helping Canadians improve their health, and the health of their families.”

According to recent research published in the *Canadian Journal of Cardiology*, excess dietary sodium causes hypertension in at least one million Canadians, resulting in \$430 million a year in direct health-care costs, Dr. Campbell says.

“In Canada, almost 46 per cent of women and 38 per cent of men over age 60 are taking costly antihypertensive medications,” says Dr. Campbell, who is CIHR Canadian Chair in Hypertension Prevention and Control. “A population-health approach to reducing dietary sodium is an appropriate strategy.”

The coalition of health groups wants to achieve the goal of getting Canadians within the healthy range of sodium intake by Jan. 1, 2020.

It is urging the federal government to:

- set graduated targets for sodium levels according to food categories;
- monitor and report on progress by 2012 and 2016;
- establish effective monitoring systems to track sodium levels in the diets of Canadians;
- educate Canadians on the health risks of high dietary sodium and how to reduce consumption;

- provide incentives to the food industry; and
- ensure health professionals understand the need to reduce dietary sodium and educate their membership about health risks and how to reduce intake.

#### **Signatories to the National Sodium Policy include:**

Blood Pressure Canada, Canadian Stroke Network, Heart and Stroke Foundation of Canada, Dietitians of Canada, Canadian Council of Cardiovascular Nurses, Canadian Cardiovascular Society, Canadian Medical Association, College of Family Physicians of Canada, Canadian Hypertension Society, Canadian Diabetes Association, Canadian Society of Internal Medicine, Canadian Pharmacists Association, Canadian Public Health Association, Canadian Society of Nephrology, Canadian Nurses Association and Canadian Heart Failure Network and Canadian Association of Cardiac Rehabilitation. 🍷

#### **Fact:**

Reducing your blood pressure reduces the risk of having a stroke, even if your blood pressure is already within the normal range.



## SALT COMES OUT IN WASH



As Canadian health groups work to reduce hidden sodium in food, advocates in other countries are providing ideas on what needs to be done.

World Action on Salt and Health (WASH), based in the UK, is linking the Canadian Stroke Network (CSN), Blood Pressure Canada and others with global efforts to effect change.

Dr. Graham MacGregor, professor of cardiovascular medicine at St. George's Hospital in London and chairman of WASH, addressed the CSN's annual general meeting in Quebec this year to explain the latest international evidence on the link between sodium and hypertension, which is the No. 1 risk factor for stroke.

Among research presented was a study of an Aboriginal population in South America whose members consumed little sodium and had absolutely no incidence of stroke or heart disease.

Dr. MacGregor told the CSN that reducing sodium in the food supply would "mean the biggest improvement in public health since clean water and drains."

WASH's efforts last year included the publication of a survey pointing out huge variations in sodium levels among the same foods from one country to another. Differences were reported in news stories around the world.

According to the WASH study, Kellogg's Corn Pops, Rice Krispies and Special K sold in Canada contain up to 85-per-cent more sodium per serving than the same cereals purchased elsewhere.

Canada also had the highest sodium content for a Burger King bacon double cheeseburger – 66-per-cent more sodium than the equivalent burger sold in Britain, and more than half an adult's total recommended daily sodium intake.

As well, Canada has the fourth saltiest Big Mac and Chicken McNuggets of 22 countries surveyed.

Variations among countries can't be explained but the good news is that, when health groups sound the alarm, the response has been positive. In the UK, work by Consensus Action on Salt and Health, also headed by Dr. MacGregor, convinced major supermarkets and food manufacturers to begin to reduce sodium content in food. In particular, Kelloggs, Unilever and supermarket chain Marks and Spencer have already carried out major reductions in sodium content in foods so that their products have levels below those in other countries.

The UK's Food Standards Agency (FSA) is another leader in raising awareness of the dangers of eating too much sodium. Its first public campaign several years ago focused on Sid the Slug, an animated character whose father was killed by salt. A survey conducted by the FSA in 2005 showed that sodium consumption was the biggest food concern among consumers. ([www.salt.gov.uk](http://www.salt.gov.uk)) Research indicates that there has been a 32-per-cent increase in the number of people in the UK who claim that they are trying to cut down on sodium.

Finland is yet another example of a country taking action. Since 1993, products high in sodium have been required to carry a "high sodium content" warning, which has helped reduce levels in many foods. Sodium levels in breads, for example, have dropped 20 per cent.

The result has been a progressive decrease in the average sodium intake among Finnish people. "Parallel to this reduction in sodium intake has been a reduction in average population blood pressure," WASH reports. Blood pressure has dropped more than a 10 mm Hg since the sodium labeling system began and this, in turn, has pushed down the rate of strokes and heart attacks.

"There has been an 80-per-cent reduction in the death rates from stroke and heart disease in the middle-aged population," which has helped increase the average life expectancy in the population. "Since both obesity and alcohol consumption have increased, this fall of blood pressure can largely be explained by the decrease in salt (sodium) intake," WASH reports.

Learn more at [www.worldactiononsalt.com](http://www.worldactiononsalt.com) 



## SODIUM FACTS:

### **What is high blood pressure?**

Optimal blood pressure is less than 120/80 mm Hg. A blood pressure of greater than 140/90 mm Hg is the clinical definition of hypertension. At this level, patients are often prescribed medication to lower blood pressure in order to reduce the likelihood of developing a stroke or heart attack.

### **Why is sodium a risk to health?**

As blood pressure increases above optimal levels, the risk of cardiovascular disease increases. Raised blood pressure is the most important factor involved in the development of cardiovascular disease, and accounts for 60% of all strokes and 50% of all heart disease. A large number of studies have been conducted, all of which support the concept that sodium intake is the major factor increasing population blood pressure. The diversity and strength of the evidence is much greater than for other lifestyle factors, eg weight reduction, lack of fruit and vegetable consumption and lack of exercise. The evidence that links sodium to blood pressure is as strong as that linking cigarette smoking to cancer and heart disease. It is estimated that reducing sodium intake to optimal levels could lead to a 24% reduction in deaths from strokes and an 18% reduction in deaths from coronary heart disease, preventing approximately 2.6 million stroke and heart attack deaths each year worldwide.

– Source: *World Action on Salt and Health*  
([www.worldactiononsalt.com](http://www.worldactiononsalt.com))

A study published this year in the *British Medical Journal* (April 2007) showed that people who adopted low-sodium diets were 25-to 30-per-cent less likely to develop cardiovascular disease over the following 10- to 15-year period.

The recent study in the *Journal of Hypertension* looked at 1,658 schoolchildren who had their salt intake and blood pressure recorded during a seven-day study of their diet. It found that high sodium consumption led to elevated blood pressure in children, increasing the risk of stroke and heart disease in later life.

### **What does Canadian research show?**

- A study published earlier this year in the *Canadian Journal of Cardiology* indicates that excess dietary sodium causes hypertension in at least one million Canadians, resulting in \$430 million a year in direct health-care costs.
- Results from the 2004 Canadian Community Health Survey indicate that, among people ages 19 to 70, more than 85 per cent of men and 60 per cent of women consume well above the maximum daily level of sodium.
- A Statistics Canada report, released earlier this year, shows that the average Canadian consumes in excess of 3,100 mg of sodium a day.

### **Where do we get our sodium?**

According to Statistics Canada (Health Reports, Vol. 18, No. 2, May 2007), processed foods are the main source, accounting for 77% of average daily sodium intake. The same report says that the most sodium-laden processed foods are pizza, sandwiches, submarines, hamburgers, hotdogs, soups, and pasta. Milk-based beverages, poultry dishes, potatoes, cheese, cereals, beef and sauces are also major contributors to our daily sodium intake.

### **Would we miss the sodium?**

Canadians have become habituated to high levels of sodium and, as a result, our taste buds have been “tuned down” so that foods with high sodium content do not taste excessively salty. Fat and sugar also helps mask the salty taste. Since we are eating more processed and convenience food that “needs” flavor enhancing, we are consuming more sodium and we have become familiarized to this level.

If we reduce our salt intake over a period of a few weeks, our taste buds adjust and become more sensitive: A lower sodium level would seem normal. If re-challenged with the original high level of sodium, we would find it very salty. ➤



### What has been the progress to date?

- For the first time, Health Canada added warnings about excessive sodium consumption to the 2007 edition of Canada’s Food Guide.
- In 2006, Dr. Norm Campbell of the University of Calgary was named the first CIHR Canadian Chair in Hypertension Control and Prevention and Control.
- In late 2006, a task force was established, bringing together health groups from across Canada, to study the issue and to recommend ways to tackle sodium levels. They met with food industry officials in 2007 and started a dialogue.
- Canadian researchers have become active participants in the U.K.-based World Action on Salt and Action (WASH), which published a report in early 2007 comparing the sodium levels in processed foods in countries around the world. Alarming, Canada was found to be a leader when it comes to sodium levels.
- In 2007, 17 leading health groups and professional associations developed a National Sodium Policy to raise awareness about the serious problem of sodium in the food supply.

- In October 2007, federal Health Minister Tony Clement announced the formation of a sodium working group to develop a long-term strategy to improve the health of Canadians.

### What needs to happen to improve and protect the health of Canadians?

- The federal government must set graduated targets for sodium levels in food.
- Progress must be monitored and reported.
- Canadians need educating on the health risks of high dietary sodium and how to reduce consumption.
- Food labels need to be improved.
- Incentives should be provided to the food industry. Sodium is now used in excessively high levels to enhance the taste of breads, breakfast cereals, soups and many other staples.
- Health professional organizations need to educate their membership and patients about the health risks of sodium and how to reduce intake.
- Sodium content information must be made easily available for restaurant and take-out food 🍷

## INDUSTRY SUPPORTS MOVE TO LOWER SALT LEVELS

*Government taking “thoughtful and realistic approach”*

Canada’s food industry says it’s ready to work with government and health groups to lower sodium content in foods.

“Canada’s food and beverage companies are supportive of the direction Health Canada is taking to reduce sodium levels in the diets of Canadians and have been active participants in establishing the process,” says Phyllis Tanaka, Vice-President Scientific and Regulatory Affairs (Food Policy) for Food and Consumer Products of Canada, the industry association that represents food manufacturers.

“The draft terms of reference for Health Canada’s (Sodium) Working Group spell out a thoughtful

and realistic three-pronged approach: consumer education, voluntary reduction of sodium levels in processed food products and foods sold in food service establishments, and research.”



Ms. Tanaka says the food industry has been invited to participate and “looks forward to bringing the expertise of the industry to the group, including our in-depth technological knowledge in

product development and excellent understanding of consumer’s taste preferences and buying habits – key components to shaping a successful strategy for the reduction of sodium in the diets of Canadians.” 🍷



## FDA HOLDS HEARING INTO SODIUM

The Canadian Stroke Network recently took part in a conference co-sponsored by the U.S.'s biggest food industry groups, Grocery Manufacturers Association (GMA) and the Food Products Association, and by the Center for Science in the Public Interest (CSPI).

The meeting, *Getting to 2,300: Balancing Health with Consumer Preferences and Industry Challenges*, brought together food industry leaders, health

professionals, and government officials in Washington to look at how to help consumers consume less than the upper limit of 2,300 mg of sodium a day.

Topics of discussion included industry experience in cutting sodium levels, consumers' taste expectations, salt substitutes, and research and education needs.

On Nov. 29 the U.S. Food and Drug Administration (FDA) held

a hearing in response to a 2005 petition by CSPI that asked the FDA to use its regulatory authority to lower sodium levels in the food supply.

"The CPSI has been lobbying the FDA for years to lower sodium in processed foods," Kevin Willis of the Canadian Stroke Network says. "It appears that both the U.S. food industry and the FDA are ready to take action. This will certainly facilitate our efforts in Canada." 🍷



Senator Wilbert Keon

"In my own work as a surgeon treating diseased and damaged hearts, I've seen the devastating impact of poor diet. It is critical that we take a population-level approach to reducing the hidden sodium in the food supply, that we make it easier for people to choose low-sodium products and that we educate people on the link between sodium and hypertension."

– Senator Wilbert Keon



## CALGARY PHYSICIAN SAYS GOOD DIET IS A LIFESAVER

*Healthy eating benefits blood pressure*



**C**utting out processed and packaged foods and reducing the sodium in his diet has taken Dan Muruve's blood pressure to normal levels.

**And all without the need for medication.**

About five years ago, when Dr. Muruve saw his blood pressure begin to creep up, he knew that he was "heading down the wrong path."



A kidney specialist and researcher at the University of Calgary, Dr. Muruve treats hypertension in his own patients. "I know what I'm dealing with and it's a real motivator. I know what the consequences will be."

**He decided to take action.**

Dr. Muruve removed all salty processed foods from his diet, cut calories, focused on "natural foods" like fruits, vegetables, whole grains and lean meats.

**The results? "A big health benefit."**

"My blood pressure is good, my cholesterol is amazing. All the cardiovascular risk factors have improved by changing my dietary habits."

Dr. Muruve says that he has cut "salt intake by at least half of what is used to be. Now, when I eat processed foods I feel kind of sick."

Within a month of making the lifestyle change, he felt more energetic and his blood pressure began to fall. His wife and children followed the new eating plan, too.



Daniel Muruve

Today, Dr. Muruve, who is in his early 40s, continues with his healthy food plan.

"When I'm at the grocery store I don't buy processed food products. I make everything myself to cut out a huge amount of salt." That means avoiding things like bottled salad dressings and canned beans and making his own tomato sauce.

Dr. Muruve exercises five times a week and his lunch bag contains fruits and vegetables for snacking.

"It takes some adjustment. It's hard at the beginning because it takes about a month to overcome a lot of cravings. But, once you get over that, it's actually quite easy to maintain a steady diet."

It's clear that the payoffs are huge. 🍎



## WHAT CAN PARENTS DO?



**H**igh sodium diets in children lead to elevated blood pressure, which increases the risk of heart disease and stroke in later life, according to a study based on data collected in the U.K. National Diet and Nutrition Survey.

The research, published recently in the *Journal of Hypertension*, found that for each extra gram of sodium eaten there was a 0.4 mm

Hg increase in systolic blood pressure. The study looked at 1,658 children who had their salt intake and blood pressure recorded during a seven-day study of their diet.

The message for parents? Check labels, especially on foods such as breakfast cereals and snack products which may not be expected to contain high levels of sodium. 🍎