## Salt \& Stone Disease

Although<br>sodium, or salt,<br>has important<br>roles in the<br>body, most<br>people consume<br>far more than<br>they need.<br>If you are a<br>kidney stone<br>former, limiting<br>the amount of<br>salt in your diet can significantly<br>reduce the risk<br>of kidney stone<br>recurrence.

Dietary salt, also known as sodium, is found naturally in many foods, although usually in small amounts. While some people add salt and salty sauces in cooking and at the table, most dietary sodium comes from food to which salt has already been added during processing or preparation.

While sodium has many important functions in the body, such as maintaining water balance between tissues, the transmission of nerve impulses and the absorption and transport of some nutrients, most people consume far more than needed. For an adult, the Adequate Intake (AI) for sodium is 1500 milligrams ( $1 / 2$ to 1 tsp) each day. The typical Canadian diet, however, provides two to four times this amount! The average intake of sodium among adults in B.C. is approximately $2700-3600$ milligrams (mg) per day ${ }^{1}$.

For kidney stone formers with elevated urine sodium, we recommend consuming less than 2000 mg or one teaspoon of salt per day ${ }^{2}$. When reading nutrition labels, the claims "lightly salted" and "reduced sodium" do not guarantee low salt content. "Sodium-free" foods contain less than 5 mg of sodium per serving.

## Sources of Sodium

The Saltshaker: Table salt is the most common source of sodium. A level teaspoon contains over 2000 mg of sodium. You can reduce sodium in your food by not salting food during cooking or at the table.

Natural Sources: All foods that come from animals contain some sodium, and some plants, such as beets, carrots, celery and spinach, contain more sodium than other plants.

Processed Foods: During preparation, salt is added to prepared and processed foods for flavour or preservation. Avoid processed foods as much as possible.

Medications: Many over-the-counter medications contain sodium. Check the label of over-the-counter medications for sodium content.

Salty Foods: If a food tastes salty, it is! Avoid salted snack foods such as nuts and pretzels and salty sauces such as soy sauce and fish sauce. Avoid pickled products or those packed in brine.

[^0]Comparing the salt (sodium) content of some foods ${ }^{3}$ :

| Food item |  | Serving | Sodium content (mg) |
| :---: | :---: | :---: | :---: |
| Vegetables and Fruit | Tomato sauce, canned Tomato sauce, no salt added | $\begin{aligned} & 1 \text { cup }(260 \mathrm{~g}) \\ & 1 \text { cup }(260 \mathrm{~g}) \end{aligned}$ | $\begin{gathered} 1357 \\ 28 \end{gathered}$ |
|  | Dill pickle | 1 medium pickle | 833 |
|  | Cucumber, raw, sliced | $1 / 2$ cup ( 65 g ) | 1 |
|  | Potato salad | $1 / 2$ cup ( 132 g ) | 699 |
|  | Baked potato, plain | 1 medium | 17 |
|  | Vegetable juice cocktail, canned | 1 cup (256 g) | 690 |
|  | Orange juice | 1 cup (256 g) | 3 |
|  | Broccoli, cooked | 1/2 cup (82 g) | 34 |
|  | Spinach, raw | 1 cup (32 g) | 25 |
|  | Strawberries | $1 / 2$ cup (88 g) | 1 |
|  | Banana | 1 banana | 1 |
| Grain Products | Bread crumbs, seasoned | $1 / 4$ cup ( 30 g ) | 535 |
|  | Bread crumbs, plain | $1 / 4$ cup ( 30 g ) | 200 |
|  | Croissant | 1 medium | 424 |
|  | Bread, whole wheat | 1 slice | 179 |
|  | Saltine crackers, regular | 5 crackers (15 g) | 166 |
|  | Saltine crackers, unsalted tops | 5 crackers (15 g) | 115 |
|  | Saltine crackers, low salt | 5 crackers (15 g) | 96 |
|  | Brown rice, cooked | $1 / 2$ cup (103 g) | 1 |
| Milk and Alternatives | Cottage cheese, 1\%, regular | $1 / 2$ cup ( 125 ml ) | 500 |
|  | Cottage cheese, 1\%, no salt | $1 / 2$ cup ( 125 ml ) | 16 |
|  | Cheddar cheese, regular | 1.5 oz ( 50 g ) | 311 |
|  | Cheddar cheese, low sodium | $1.5 \mathrm{oz}(50 \mathrm{~g})$ | 11 |
| Meat and Alternatives | Cheeseburger (fast food), single patty Chicken breast, roasted | 1 burger 3.5 oz ( 85 g ) | $\begin{gathered} 1589 \\ 64 \end{gathered}$ |
|  | Baked beans, with beef, canned | 1 cup (270 g) | 1335 |
|  | Baked beans, canned, no salt added | 1 cup (270 g) | 3 |
|  | Deli ham, sliced | 3 oz (85 g) | 1112 |
|  | Turkey breast, roasted | 3 oz ( 85 g ) | 44 |
|  | Almonds, roasted, salt added | $1 / 4$ cup ( 35 g ) | 249 |
|  | Almonds, roasted, no salt added | $1 / 4$ cup ( 35 g ) | 0 |
|  | Salmon, baked or broiled | 3.5 oz (100 g) | 0 |
| Other foods, snacks, condiments, etc. | Table salt | $1 \mathrm{tsp}(6 \mathrm{~g})$ | 2373 |
|  | Vegetable soup, canned | 1 cup ( 255 g ) | 1068 |
|  | Vegetable soup, low sodium | 1 cup ( 255 g ) | 139 |
|  | Soy sauce | 1 tbsp (15 ml) | 1044 |
|  | Mrs Dash ® salt substitute | $1 / 4 \mathrm{tsp}(0.6 \mathrm{~g})$ | 0 |
|  | Pretzels, salted | 10 pretzels | 1029 |
|  | Pretzels, unsalted | 10 pretzels | 173 |



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[^0]:    1. Forster-Coull L, Levy Milne R, Barr SI. BC Nutrition Survey. Ministry of Health Services, Health Canada and University of British Columbia; 2004.
    2. Taylor EN, Curhan, GC. Diet and fluid prescription in stone disease. International Society of Nephrology. Kidney International 2006;70: 835-839.
[^1]:    3. Health Canada. Canadian Nutrient File, 2007. Canadian Nutrient File Home Page, http://www.hc-sc.gc.ca/food-aliment/ns-sc/nr- rn/surveillance/cnffcen/e_index.html
