Don't be so salty

For the good of your health, you need to limit consumption of salt.

WHEN we speak of salt intake, most people are aware that excessive intake is linked to hypertension, which in turn is a risk factor for heart disease and stroke.

Not many people realise that excess salt intake is associated with some cancers, particularly stomach cancer. I would therefore like to talk about salt in this write up. This is yet another factor linking foods and drinks and the risk of cancer.

As in previous write ups on cancer prevention, I will continue to rely on the World Cancer Research Fund (WCRF) Expert Report on Food, Nutrition, Physical Activity and the Prevention of Cancer (www.dietandcancerreport.org/) as well as the Hong Kong WCRF Recommendations for Cancer Prevention booklet (www.wcrf-hk.org/). I will highlight the 7th WCRF recommendation: Limit consumption of salt.

What are sodium and salt, and where are they found?

Sodium is an essential mineral that is required daily in a small amount of 500mg or half a gram a day for adults. Sodium plays a major role in regulating water balance in the body. It is also important in maintaining the body's ability to regulate acid-base balance, transmit nerve impulses, regulate cell membrane function and muscle activity, and absorb and transport certain nutrients. Sodium is also a component of sweat and tears.

Sodium is a component of salt or sodium chloride; indeed nearly half (almost 40%) of sodium chloride is sodium. Sodium in food is naturally present or is added during processing or cooking, or both, usually as table salt or monosodium glutamate.

You cannot always tell by taste if a food is high in sodium. For example, staples in the diet such as cereal products (bread and breakfast cereals), canned foods, margarine or butter and processed foods are often high in sodium even though they do not taste salty.

There is a table of the salt contents of various foods in the Malaysian Dietary Guidelines (www.nutriweb.org.my).

Most nutrition information panels on food labels list the sodium content instead of the amount of salt. To determine how much salt a food contains, multiply the sodium content by 2.5. For example if a food label declares that the amount of sodium is 2000mg or 2g, this is equivalent to 5g or 1 teaspoon of salt.

Sodium use and misuse

The body has a large reserve of sodium, and a deficiency is not likely to occur under normal circumstances since people are continually eating sodium-containing foods.

Studies have shown that a relationship may exist between salt intake and the incidence of hypertension or high blood pressure because the sodium in salt causes the body to accumulate fluid. Any excess fluid puts greater pressure on the walls of the blood vessels, creating higher blood pressure.

For many people with high blood pressure, reducing salt in the diet will help to bring it to within normal range.

Rationale on reduction of salt intake

Data from surveys indicated Malaysians consume much more salt and sodium than they actually need. With affluence, there is an increasing trend of eating out (fast food outlets are highly popular) and takeaways which tend to be high in sodium.

There is also an increased consumption of processed and canned foods which are also high in sodium. Hence it is most appropriate to remind Malaysians to choose food low in salt. This write up focuses on another health hazard of excess intake of salt, namely cancer.


Salt and salt-preserved foods are probably a cause of stomach cancer.

Salt and cancer – the evidence

Upon reviewing all available evidence, the WCRF expert panel concluded that:

- Consuming too much salt can be harmful to our health, increasing our risk of stomach cancer. The critical factor is the overall amount of salt. Hence, salted and salty foods are a probable cause of stomach cancer.
- On the other hand, non-starchy vegetables, and specifically allium vegetables (e.g. onions, garlic and leeks), as well as fruits probably protect against stomach cancer.
- There is also limited evidence suggesting that pulses (legumes), including soya bean and soya products, protect against stomach cancer.

What is the link to cancer?

Studies reviewed by the expert panel showed that there are several possible ways in which a high salt intake can bring about increased risk of cancer.

Firstly, there is evidence from animal studies that high salt intake damages the lining of the stomach.

Secondly, excess salt intake has been shown to increase the formation of N-nitroso compounds (e.g. nitrosamines or nitrosamides) in the body. Several of these N-nitroso compounds are known human or animal carcinogens (cancer-causing substances).

In addition, a high salt diet may enhance the action of carcinogens in the stomach. Furthermore, salt intake may facilitate *Helicobacter pylori* infection; this bacterium is an established cause of stomach cancer.

WCRF recommendations

In view of available scientific evidence, the recommendation of the WCRF is therefore to limit consumption of salt.

Their public health goals, which are for populations and are therefore principally for health professionals are:

- Population average consumption of salt from all sources to be less than 5g (2g of sodium) a day
- Proportion of the population consuming more than 6g of salt (2.4g of sodium) a day to be halved every 10 years

The personal recommendations, meant for people, as communities, families, and individuals are:

- Avoid salt-preserved, salted, or salty foods; preserve foods without using salt
- Limit consumption of processed foods with added salt to ensure an intake of less than 6g (2.4g sodium) a day

Recommendations from other dietary guidelines

In a review of the dietary guidelines of 18 countries in different parts of the world, including Malaysia, I found that all the dietary guidelines examined had a specific message on the restriction or reduction of salt/sodium intake. The wording of the message varies, but basically the recommendation is to use salt sparingly and choose foods low in salt.

Most of the guidelines provide reasons/rationales against excessive salt intake. In all cases, the main reason given is that sodium (from salt) is directly linked to hypertension, which in turn is a risk factor for heart disease and stroke.

A few countries also mention that excessive salt intake is associated with stomach cancer and nasopharyngeal carcinoma (commonly known as nose and throat cancer).

At the same time, a World Health Organisation (WHO) expert consultation had recommended that since dietary intake of sodium, from all sources, influences blood pressure levels in populations, it should be limited so as to reduce the risk of coronary heart disease and stroke.

The population nutrient intake goals of the WHO expert consultation recommends a maximum of 5g of salt per day. This should take into account total sodium intake from all dietary sources. The need to balance this with potassium intake is also emphasised.


You should be aware that there is a link between excessive salt intake and high blood pressure. – Reuters

Practical tips to reduce salt intake

- Choose fresh fruits, vegetables, meats and unprocessed grains because they are generally low in sodium. Most convenience foods contain added sodium compounds and "fast foods" are often high in sodium.
- Choose home-cooked meals made with fresh produce where possible. This gives you more opportunity to control the amount of salt in your diet. Use a small amount of salt in cooking and avoid sprinkling extra salt in food.
- Limit consumption of highly salted foods and condiments such as soya sauce and oyster sauce. Check nutrition information panels on food labels and select processed foods and snack items with less salt or sodium.
- The taste for salt is learnt and can be unlearnt. One can learn to enjoy the flavour of foods without salt. Gradually reduce, then cut out, the salt you add during cooking or at the table. Your taste buds should adjust within a few weeks, allowing you to enjoy the true taste of food and notice more subtle flavours.
- Spices, herbs, garlic and lemon add flavour to food quickly and easily; use these instead of salt.

I must underscore the message: the choices we make on what we eat, drink and how active we are each day will together provide us important protection against chronic diseases at all times in life, from childhood to old age.

Remember, little changes make a huge difference! Take positive steps today.

■ *NutriScene is a fortnightly column by Dr Tee E Siong, who pens his thoughts as a nutritionist with over 30 years of experience in the research and public health arena. For further information, e-mail starhealth@thestar.com.my. The information provided is for educational and communication purposes only and it should not be construed as personal medical advice. Information published in this article is not intended to replace, supplant or augment a consultation with a health professional regarding the reader's own medical care. The Star does not give any warranty on accuracy, completeness, functionality, usefulness or other assurances as to the content appearing in this column. The Star disclaims all responsibility for any losses, damage to property or personal injury suffered directly or indirectly from reliance on such information.*