



IODINE

This information is brought to you by many of the Australian nutrition professionals who regularly contribute to the Nutritionists Network ('Nut-Net'), a nutrition email discussion group.

Date of last Revision: January 2009

The following series of questions and answers address the need in our diet for an essential mineral, iodine, and how we can minimise the risk of iodine deficiency.

What is iodine?

Iodine is a chemical element that is required for growth and survival. It is found in varying amounts in plants and animal foods. The ocean is a rich and natural reservoir of iodine; seafood and seaweed (such as kelp and nori) are therefore the richest natural food sources of iodine available.

How much iodine do I need?

Adults generally need about 150 micrograms of iodine per day, though pregnant and breastfeeding women need up to 200 micrograms of iodine daily. Children and infants have somewhat lower requirements. Two to three servings of seafood a week provides sufficient iodine to meet the requirements of most people. Animal products such as eggs, meat and dairy foods provide adequate levels of iodine, and these foods are often iodine-enriched through the use of iodine-supplemented animal feed. Most plant foods provide less iodine than foods from animal sources, and the amount of iodine present in plant foods depends on the concentration of iodine in the soils in which the plant was grown.

What does iodine do in the body?

Iodine plays a major role in the body as an essential component of various thyroid hormones. These hormones play a vital role in the regulation of various metabolic processes, particularly those involved in growth and energy expenditure. During childhood, these hormones are essential for normal cognitive and physical development. Moreover, thyroid hormones are critically important for normal development of a baby during pregnancy. Women planning a pregnancy therefore need to be particularly aware of their iodine levels and iodine intake from various foods.

What happens when a person does not meet their iodine requirements?

People who fail to obtain adequate iodine in their diet may develop a condition known as 'goitre', a swelling of the thyroid gland in the neck. Iodine deficiency can also lead to weight gain, lethargy, intolerance to cold, increased blood cholesterol, mental slowness and reduced heart function.

How common is iodine deficiency?

Several areas of Australia and New Zealand have soil that is low in iodine. Recent research suggests that mild iodine deficiency may be a widespread problem in the general population. Any salt used at home should be iodised salt (that is, salt to which iodine has been added). Note that sea salt is a poor source of iodine.

Can you get iodine from a supplement? Is this dangerous?

Iodine supplements may be appropriate for individuals who do not eat seafood, animal flesh, animal products or iodised salt, or for those who have higher iodine requirements (such as pregnant or breastfeeding women). Although most individuals can tolerate iodine at a wide range of intake level, exposure to extremely high levels (above 1,000 micrograms per day) can potentially be harmful. Be careful to only take supplements that state the iodine content on the label so that you can be sure of how much iodine you are consuming. Before starting a supplement, always check with your doctor to ensure that the iodine content of the supplement is appropriate.

Is iodine added to other foods aside from salt?

Because health authorities recommend that salt intake should be minimised (largely to reduce the risk of high blood pressure), lack of iodine in the diet should not be overcome by recommending an increase in consumption of iodised salt. Adding iodine to other widely consumed and health-promoting foods may be a more appropriate option. In Tasmania, a voluntary program whereby commercial bread manufacturers were encouraged to use iodised salt in baking processes appears to have improved iodine status of Tasmanians. Subsequently, legislation was passed in 2008 that requires the addition of iodine to salt used in commercially-baked bread (other than 'organic bread') in Australia and New Zealand from September 2009.

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