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Iodine and Thyroid Health

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Most of us think of iodine as a topical antiseptic agent used to prevent skin infections. Iodine also has many critical functions inside the body, one of which is to enable the cells of the thyroid gland to produce the thyroid hormones that regulate metabolism, growth and development. Iodine is critical in these roles in neonatal development and in infants and children. In addition, iodine functions as an anti-oxidant and has a role in the healthy functioning of brain, breast, stomach, heart and prostate tissue (these functions of iodine will be addressed in Part Two – Issue #4). Iodine may also help with immunity and it may reduce diabetes risk. Low levels of iodine cause hypothyroidism, goiter, cognitive damage and other developmental abnormalities.

People traditionally feel that they obtain enough iodine through iodized salt. With many people on salt restricted diets or using Kosher salt, and with the amount of iodine in soil varying substantially by region, iodine deficiency has actually become a very real concern. Worldwide, it is thought that up to 40 percent of the population is at risk for having low iodine levels. Low levels of iodine in young (childbearing) women is of particular concern because this population is most at risk for deficiency and iodine deficiency while pregnant carries a high risk of developmental abnormalities of the brain.

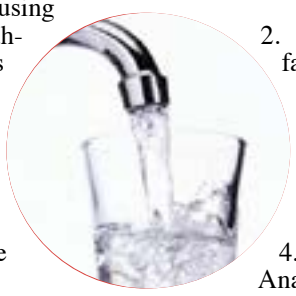
The American Thyroid Association recommends that pregnant and breastfeeding women take a vitamin with iodine.

The thyroid gland absorbs iodine from the blood and uses it to make thyroid hormones T3 and T4, which contain three and four atoms of iodine per molecule respectively. This mineral is therefore absolutely critical for normal thyroid hormone production.

What Causes Iodine Deficiency?

Foods high in iodine include dried seaweed, cod, iodized salt (fortified), baked potato with peel, milk, shrimp, fish sticks, turkey breast, navy beans, tuna canned in oil, and boiled eggs. However, many substances we are exposed to daily compete with iodine for absorption in the body. Some of the foods we consider to be the healthiest such broccoli, arugula, cabbage and Brussels sprouts - are all goitrogens, preventing the uptake and use of iodine. Spinach and peaches also act as weak goitrogens.

Additionally, iodine is a halide and other members of the halide family - bromide, chlorine and fluoride - compete with iodine for absorption. So drinking chlorinated and fluoridated water and using fluoridated toothpaste or other dental hygiene products make it harder for us to absorb iodine. When iodine is deficient, these other halides, each of them toxic, will take iodine's place in the thyroid impairing the thyroids ability to produce thyroid hormones.



Bromide has replaced iodine as a dough conditioner in many bread products so even ingesting bread can enable iodine deficiency. Bromide is also in some sodas such as Mountain Dew® and Sun Drop®, as well as some Gatorade® products and other citrus-flavored beverages, and bromide is commonly used in hot tubs and spas. Additionally, vegetables are often contaminated with bromide which is used as a fumigant in agriculture.

Restoring Iodine Levels

Iodine deficiency is a common but often undetected problem. Deficiency can be identified with a simple 24 hour urine test. Treating deficiency should include eating foods high in iodine, avoiding foods and halides that are detrimental to iodine uptake and supplementing with selenium, magnesium, Vitamin C and glutathione to allow for better use of iodine within the body.

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