

# Iodine

## Facts:

- ◆ Iodine is converted to iodide in the gut, absorbed in the digestive tract, and circulated throughout the body. Most iodide is trapped by the thyroid gland where it then forms an essential component of thyroid hormones.<sup>1</sup>
- ◆ Estimates are that the body contains 25 mg of iodine.<sup>2</sup>

## Function:

- ◆ Required in only trace amounts, iodine helps metabolize excess fat and is key for physical and mental development.
- ◆ Iodine is important for proper functioning of the thyroid gland and for the prevention of goiter, an enlargement of the thyroid gland.<sup>1-3</sup>
- ◆ The condition of the hair, skin, nails, and teeth are all dependent on the proper functioning of the thyroid as is the conversion of carotene to vitamin A.<sup>2</sup>

## Requirements:

The Recommended Dietary Allowance for iodine is as follows:

Age:	ESADDI (micrograms):
Infants: 0 -6 mos	40 to 50 mcg
1-3 yrs.	70 mcg
4-6 yrs..	90 mcg
7-10 yrs.	120 mcg
11 +	150 mcg
Adults	150-200 mcg

## Signs of Deficiency:

In adults, an iodine deficiency can result in hypothyroidism, a reduced rate of thyroid hormone secretion characterized by lethargy, weight gain, and, sometimes, goiter. A deficiency can result in impaired growth and neurological development and has been linked with thyroid cancer in a number of studies.<sup>4</sup> In adult women, iodine deficiency has been linked with breast cancer.<sup>3,5</sup> In children, a iodine deficiency can result in mental retardation, stunted growth, cretinism, and impaired movement, speech, or hearing.

## Interactions:

Certain foods consumed raw and/or in large quantities can inhibit the uptake of iodine by the thyroid gland. These foods include: Brussels sprouts, cabbage, cauliflower, kale, peaches, pears, spinach and turnips.<sup>3</sup>

## Iodine

### Safety:

Pregnant women and nursing mothers should avoid iodine intakes greater than RDA amounts. Children with cystic fibrosis are susceptible to goitrogenic effects of high iodide doses.

### Signs of Toxicity:

Large doses of iodine can produce a metallic taste in the mouth and sores in the mouth, swollen salivary glands, diarrhea, and vomiting.<sup>3,5</sup>

### Current Research:

Brain function: Researchers have linked low iodine consumption with impaired cognition. In Indonesia, supplementing infants with iodized oil reduced infant mortality less than 4 months of age.<sup>1</sup>

Fibrocystic Breasts: According to the *Physicians' Desk Reference*, there is one case report showing that elemental iodine taken for four months produced significant relief from symptoms of fibrocystic breast disease. Subsequent studies have also reported significant benefit from supplementation with other iodine-containing compounds.<sup>5</sup>

### References:

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5. Medical Economics Company. Iodine. In: *Physicians' Desk Reference* (1<sup>st</sup> Ed., pp. 229-32), Montvale, NJ:
6. Barney, P (1998). In: *Doctor's Guide to Natural Medicine*. Pleasant Grove, UT: Woodland Publishing.