What is Iodine?

Iodine is a trace mineral, and like all other trace minerals can produce an enormous effect on body health and function. The body's iodine reserves are approximately 20-30mg of iodine of which about 8mg is found in the thyroid gland. Dietary iodine is converted in the gut to iodide for absorption.

Why is Iodine important and what does it do in the body?

Iodine is used by the thyroid gland, which adds it to the amino acid tyrosine (derived from the digestion of protein) to make the thyroid hormone thyroxine. This hormone helps in the control of our metabolism. There are two types of thyroxine hormone: T4 has 4 molecules of iodine attached to it and T3, with 3 molecules of iodine attached to it. T3 is the active thyroid hormone. Iodine therefore supports the body in burning excess fat and preventing the accumulation of cholesterol. It also calms nerves, supports mental function and improves the health of nail, hair, skin and teeth. Iodine helps convert beta carotene (derived from foods such as carrots) into vitamin A and regulates the rate at which the cells use oxygen to make energy.

A deficiency in iodine results in a wide number of disorders (listed below) and is likely to occur as a result of poor dietary intake of iodine. Iodine deficiencies are the leading cause of preventable mental retardation (Lord). A lack of iodine may increase the risk of still birth, abortion, congenital abnormalities, endemic cretinism and deaf mutism. It may increase the risk of hypothyroidism and hyperthyroidism, goiter formation, impaired mental function and breast tissue conditions such as mammary dysplasia and fibrocystic breast disease. It may also be a contributing factor in the development of many forms of cancer.

What amount of Iodine do you need each day?

Iodine deficiency is a worldwide problem. This is often due to over-farmed soils which become depleted in iodine and insufficient dietary intake from foods rich in iodine like sea kelp. However table salt is commonly has iodine added to it (iodized salt) which goes some way to reducing iodine deficiency in the diet.
The DRI (Daily Recommended Intake) /RDA (Recommended Daily Allowance) of dietary Iodine are listed below:

Please Note: By definition, the DRI/RDA recommendations apply only to 98% of healthy individuals and are not sufficient for those with higher nutrient requirements based upon their biochemical individuality, genetics, health status, medications, deficiencies, lifestyle, and toxic exposures.

The National Institute of Medicine Adequate Intake (AI) levels are as below:

**Adult**
- Ages 18 years and up: 150 mcg per day
- Pregnant females: 220 mcg per day
- Breastfeeding women: 290 mcg per day

The Tolerable Uptake Intake Levels (UL), which is the highest level of daily intake that’s not likely to result in side effects.
- Children 1 - 3 years: 200 mcg per day
- Children 4 - 8 years: 300 mcg per day
- Children 9 - 13 years: 600 mcg per day
- From 14 - 18 years (including pregnant and breastfeeding): 900 mcg day
- For adults older than 19 (including pregnant and breastfeeding): 1,100 mcg per day

**Pediatric**
- Infants ages 0 - 6 months: 2,200 mcg (micrograms) per day
- Infants ages 7 months - 1 year: 130 mcg per day
- Children ages 1 - 8 years: 90 mcg per day
- Children ages 9 - 13 years: 120 mcg per day
- Children ages 14 - 18 years: 150 mcg per day

Wounds or burns: Follow your health care provider’s instructions. Iodine is applied topically to the skin to prevent and treat infections from wounds and burns.

RECOMMENDED DAILY ALLOWANCE
None established

OPTIMAL DAILY ALLOWANCE
150mg/Day
What are possible Iodine deficiency conditions and symptoms?

- Brain impairments in child(ren)
- Breast cancer
- Cold body
- Constipation
- Cretinism
- Dental cavities
- Fatigue
- Frequent Cold or Infection
- Goiter
- Hypothyroidism
- Obesity

What are possible Iodine excess symptoms?

Excessive iodine use can limit the production of thyroxine and can stimulate autoimmune thyroiditis, goiter formation and hypothyroidism. Since this is so it is essential to assess iodine levels in the body prior to supplementation. Please seek advice from your health care professional.

What steals Iodine from the body?

No known drugs or food sources increases the excretion of iodine from the body. Chlorine and fluoride from water supplies and bromide can block iodine receptor sites and reduce absorption and use of iodine.

What tests can be used to assess Iodine levels?

- Urinary iodine loss (ug/L) < 20 is a severe deficiency, 20-49 is moderate deficiency and 50-99 is mild iodine deficiency.
- Urinary excretion also increases during pregnancy.
- Blood levels of iodine.
- Indirect measurement can be using thyroid hormone levels including TSH (Thyroid Stimulating Hormone), T3 and T4.

Home tests:

- The iodine skin test (painting the skin with iodine tincture and reviewing after a 24 hour period see the brown iodine pigment has disappeared. Its disappearance suggests a possible iodine deficiency)
- The basal barnes temperature test. Immediately upon waking and before moving around use a thermometer take your underarm temperature for three consecutive mornings and make a note of the temperatures. A temperature below 36.6 degrees Celsius may indicate hypothyroidism.
What foods contain the highest amounts of Iodine?

TOP 5 IODINE RICH FOODS ARE:

1. **Dried sea weed**  
   4.5mcg/quarter ounce

2. **Iodized pink salt**  
   70mcg/one g

3. **Egg yolk**  
   12mcg/1 boiled egg

4. **Baked potato with skin**  
   60mcg/1 medium sized potato

5. **Turkey breast**  
   34mcg/ 3 ounces

What are the best Iodine products to purchase?

The most bio-available forms of elemental iodine are organic sources such as kelp and iodine caseinate. These are particularly important for women with breast concerns, such as excessive estrogen production, as breast tissue requires this elemental form and cannot convert the iodide form to iodine. However inorganic iodides such as potassium iodide and sodium iodide are available.

REFERENCES

<table>
<thead>
<tr>
<th>Source</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine</td>
<td>University of Maryland Medical Center <a href="http://umm.edu/health/medical/altmed/supplement/iodine#ixzz36mKA01jz">link</a></td>
</tr>
<tr>
<td>University of Maryland Medical Center</td>
<td></td>
</tr>
<tr>
<td>Sharon, Michael. Dr. Complete Nutrition 2002</td>
<td></td>
</tr>
<tr>
<td>Laake. Dana Nutrient Chart (not published)</td>
<td></td>
</tr>
<tr>
<td>Groff. Advanced Nutrition and Human Metabolism 5th 2009</td>
<td></td>
</tr>
<tr>
<td>Gibson Principles of Nutritional Assessment 2nd Ed. 2007</td>
<td></td>
</tr>
<tr>
<td>Harpers review of Biochemistry. Lange Med 26 Ed 2009</td>
<td></td>
</tr>
<tr>
<td>Office of Dietary Supplements, NIH Fact sheets 2010</td>
<td></td>
</tr>
<tr>
<td>Balch. A. Phyllis CNC Prescription for Nutritional Healing 2002</td>
<td></td>
</tr>
</tbody>
</table>

All the statements, including product labels, supporting literature and/or product manufacturers websites have not been evaluated by FDA. These products are not intended to diagnose, treat, cure or prevent any disease.
What are the very best Iodine products to buy?

**ProThera Iodine**
High potency iodine/iodide. Essential for formation of thyroid hormones, iodine’s benefits for immune function are less well appreciated. Higher intakes such as those consumed in the Japanese diet may be …

**Pure Caps Iodine**
Supports healthy thyroid function. *Iodine is absorbed by the thyroid gland and supports the formation of thyroid hormones. Thyroid hormones have the ability to cross cell by enhancing mitochondrial activity and enzyme …

**Klaire VitaSpectrum**
Powdered multiple vitamin/mineral supplement for children with Autism Spectrum Disorders. Natural berry-pomegranate flavor. This comprehensive multiple vitamin/mineral supplement contains 28 highly bioavailable …

**ProThera MultiThera 3**
Iron- and copper-free multiple formula. Both iron and copper have been eliminated from this version of MultiThera® to address the needs of patients who may have elevated tissue identical in all other respects to MultiThera® 1 …

**Pure Caps Womens Pure Pack**
Women’s Supplement to Support Bone and Heart Health. Now With Metafolin® L-5-MTHF. Sizes Available 30 packets. Each packet contains 6 different supplements, including …

**Pure Caps Mens Pure Pack**
Regardless of your walk of life, all men need to ensure that they get enough of an array of important nutrients. However, who wants to spend their time picking out supplements for a daily …