

### WHY DO WE NEED IODINE?

lodine deficiency can be a major contributor to the cause of congenital hypothyroidism and goiter. Congenital hypothyroidism can lead to intellectual disability, lower IQ and stunted growth. Symptoms typical of iodine deficiency include cold extremities, fatigue, insomnia, dry eyes, frequent crying (iodine is needed for lachrymation and tearing), weight gain, cracking heels, and palpable tenderness in the sternum. Over the years, sodium restriction, as directed by many health professionals in an attempt to reduce hypertension and cardiovascular disease, has led to a decline in iodine intake. Many brands of salt today are not enriched with iodine. A goiter is often the result of the thyroid gland becoming enlarged in an effort to compensate for a lack of iodine.

Sources of dietary iodine include iodized salt, seafood, kelp, seaweed, asparagus, spinach and Swiss chard. However, the body does not store iodine for long periods of time, so regular intake through diet, and possibly supplementation, is important.

#### THE RDA FOR IODINE MAY BE TOO LOW

The RDA for iodine is only 150 mcg per day. The RDA for pregnancy is 220 mcg and for lactation 290 mcg iodine. These very low RDA's were set as a minimum amount needed just to prevent hypothyroidism. Today as more and more doctors are testing for iodine deficiency, they are sometimes finding that a significant percentage of patients have suboptimal iodine intake and are not getting enough for optimal thyroid health.

#### **IODINE IS USED IN SUPPORT OF:**

- Hypothyroidism
- Hyperthyroidism
- Hashimoto's thyroiditis
- Fibrocystic breasts
- Goiter
- Thyroid nodules
- PCOS

#### IODINE FOR THYROID HEALTH

The thyroid is composed of spherical follicles that selectively absorb iodine (as iodide ions, I-) from the blood for production of thyroid hormones. Twenty-five percent of all the body's iodide ions are in the thyroid gland.

Inside the follicles is a colloid which is rich in a protein called thyroglobulin. The colloidal material

serves as a reservoir of materials for thyroid hormone production and, to a lesser extent, a reservoir of the hormones themselves. Thyroid hormones, thyroxine (T4) and triiodothyronine (T3), stimulate vital processes in every part of the body. These thyroid hormones have a major impact on the following functions:

- Growth
- Use of energy and oxygen
- Heat production
- Fertility
- The use of vitamins, proteins, carbohydrates, fats, electrolytes, and water
- Immune regulation in the intestine



Up to 40% of T4 is converted to T3 by peripheral organs such as the liver, kidney and spleen. Selenium is needed to convert T4 into T3. T3 is about ten times more active than T4. The 5'-deiodinase enzyme, involved in thyroid hormone conversion, is a selenoprotein dependent on the mineral selenium. Taking iodine long-term increases the need for selenium. Selenium levels are often low due to depletion by mercury.

#### **IODINE FOR BREAST AND PROSTATE HEALTH**

Lack of iodine may contribute to fibrocystic breast disease. When researchers give rats an iodine blocking agent, sodium perchlorate, breast changes occur such as calcification and development of cysts that resemble human fibrocystic disease. In the breast iodide stimulates production of lactoperoxidase which has functions other than attaching iodine to tyrosine. It helps regulate estrogen molecules outside the estrogen receptor on cells. Iodine slips into the cell by a different mechanism and induces apoptosis and cell division. Another good supplement to take, possibly in conjunction with iodine is DIM•Evail. Iodine may have a similar effect on prostate health as well.

**Iodine** concentrates in: stomach (helps make hydrochloric acid), breast, prostate and testes.

**lodide** is found mainly in: thyroid, ovaries and breast tissue.

## IMPORTANCE OF HEALTHY SODIUM/IODIDE SYMPORTER

Vitamin C and magnesium are also integral nutrients in an iodine treatment plan as they help to improve the transport mechanism for iodine. This protein is crucial for allowing the thyroid gland to transport and concentrate iodide from blood which is absolutely necessary for the synthesis of thyroid hormones. Vitamin D is important for proper cell receptor activity as well.

#### **IODINE FOR THYROID NODULES**

Thyroid nodules are extremely common. Most people will develop a thyroid nodule by the time they are 50 years old. More than 95 percent of all thyroid nodules are benign. A nuclear thyroid scan can determine whether thyroid nodules are hot or cold. Cold nodules are suspicious and should be evaluated so carcinogenicity can be ruled out.

# Medicinal Ingredients (per capsule):

lodine (Potassium iodide)10						.10 mg
Selenium (Selenomethionine)						
		Microcrystalline				

Adults: Take 1 capsule every two weeks, or as directed by your health care practitioner.

# **lodine Synergy**™

# **Natural support for thyroid function**

lodine Synergy™ combines the two minerals iodine and selenium, in order to support healthy thyroid function. Iodine supports the balanced production of thyroid hormones, as well as the health of breast and prostate tissue. Selenium works together with iodine to support the normal conversion of thyroid hormones, thyroxine (T4) into triiodothyronine (T3), and supplies antioxidant protection to the thyroid gland.

# **Thyroid Gland**

The thyroid gland (which is located in the front of the neck) requires iodine for the production of the thyroid hormones T4 and T3. These hormones stimulate vital processes in every part of the body, and have a major impact on growth, the use of energy and oxygen, heat production, the regulation of metabolism, fertility, immune regulation in the intestine, and the use of vitamins, proteins, carbohydrates, fats, electrolytes and water.

# **Iodine Synergy™ Supports:**

- Thyroid gland
- Breast tissue
- Prostate tissue

Along with iodine, the conversion of the thyroid hormone T4 into T3 requires an enzyme that is dependent on the mineral selenium. Taking high doses of iodine long-term increases the need for selenium, which is why lodine Synergy™ includes both of these minerals in this formula.

# **lodine Deficiency**

Over the years, many health professionals have recommended the restriction of sodium from the diet in an attempt to reduce hypertension and cardiovascular disease. This restriction has led to a decline in iodine intake, since most salt on the market is "iodized salt," which is salt with added iodine. In addition, there are various brands of salt available today that are not enriched with iodine, which can also lead to an iodine deficiency.

Good sources of dietary iodine include iodized salt, seafood, kelp, seaweed, asparagus, spinach and Swiss chard. However, the body does not store iodine for long periods of time, so regular intake through diet, as well as additional supplementation, is important.

#### **Breast and Prostate**

Breast tissue, like the thyroid gland, has a high concentration of iodine. Iodine Synergy™ helps stimulate the production of enzymes in the breast tissue, as enzymes found in breast tissue reacting with iodine have been shown to exert powerful antioxidant protection. Iodine has a similar effect on prostate health as well.

**Recommended Dose: Adults:** Take one capsule every two weeks, or as directed by your health care practitioner. **Does not contain Gluten.** 

