Iodine Deficiency

By Jacqueline Fields, MD and founder or Dr. Fields' Sacred Skin | October 2014

Perhaps one of the most significant risk factors for optimal health is the potential for nutritional deficiencies. Due to this fact I love to offer patients nutritional testing to look at the root cause of their issues.

One of the most important and prevalent deficiencies today is the current lack of iodine in our diet. Here are some statistics:

- In the last 30 years, according to the National Health Nutritional Examination Survey, iodine levels have decreased by 50% (1).
- In one clinical study by thyroid expert Dr. David Brownstein, more than 96% of over 5000 patients tested were iodine deficient (2).
- According to the World Health Organization, iodine deficiency affects 72% of the world's population (3).

Since 1980, when iodine levels began to decline, thyroid diseases have become very common and taking thyroid medicine has become so accepted that, sadly, we don't even consider it a disease anymore.

Symptoms of iodine deficiency include, among other things, fatigue, cold hands and feet, "brain fog," increased need for sleep, dry skin, thinning hair, and constipation.

Even if you eat a healthy diet, it's easy to become iodine deficient.

Benefits of Iodine

- Supports Immunity
- Supports Natural Detoxification
- Supports Thyroid Function
- Supports Cellular Metabolism
- Supports Optimal Hormonal Function
- Supports Memory, Energy, Mood, and Weight

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

- Iodine may provide immune support for optimal breast health, as the breast tissue concentrates more iodine than the thyroid (9).

Why is Iodine So Important?

While most of us are aware that iodine is a precursor to making thyroid hormones, the role of iodine only begins with the thyroid. Iodine receptors exist in each of the many trillions of cells in the body and regulate cellular function, like the movement of nutrition *into* the cell and the lymph drainage of toxins *out* of each cell. Iodine was thought to be an antibiotic in the 1800's. Even today, before surgery, doctors rub the area to be operated on with iodine, not Neosporin, to support immunity.

Protects Against Heavy Metals, Chemicals & Toxins

Maybe even more important is the role of iodine in protecting cells from the chemical and toxic load that has reached unprecedented levels in our environment.

Sadly, new furniture outgassing can be a source of halogens that compete with iodine in the body's iodine receptors.

Chlorine(4), bromine (5) and fluorine (6, 7) are halogens like iodine. When iodine levels are low, the empty iodine receptors in our bodies pick up these other halogens or their chemical byproducts that may be toxic at high levels. Heavy metals, environmental pollutants, pesticides, outgassing furniture, carpets, pollutants, pesticides and estrogens from plastics may be more aggressive when iodine levels are low. These toxins compromise iodine levels, which may inhibit thyroid function, cellular metabolism, hormonal balance, and many other cellular functions.

Protects Against Radiation

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

Since Chernobyl and, more recently, the Fukushima Daiichi nuclear disaster, radioactive iodines have been released into the global environment. These radioactive iodines compete for iodine receptors and may rob the body of functional iodine. Thyroid cancer has risen steadily. Prior to Chernobyl and the global increase of nuclear power, there were no reported cases of childhood thyroid cancer and today it is one of the fastest growing cancers in children. After Chernobyl, people for hundreds of miles around that area were given potassium iodide pills to fill their iodine receptors and protect the individuals from radiation poisoning. Radiation poisoning may damage the thyroid and other iodine sensitive tissues like the breast, prostate, brain, gastric mucosa, salivary glands, cerebrospinal fluid and ovaries.

Why We Are Iodine Deficient: Possible Factors Linked to Iodine Deficiency

- Toxins compete with iodine receptors
- Iodine-depleted soil
- Chlorinated and fluoridated water
- Baked goods no longer use iodine as a dough conditioner
- Lack of iodine in our diet
- Lower salt consumption
- Iodized salt loses 100% of iodine content after exposure to air for 4 weeks

When the thyroid becomes dangerously low in iodine it may reach out, enlarge, and expand in an attempt to grab onto any available iodine and cause a swollen thyroid gland called a ***goiter.***

Currently, the FDA has set the RDA for iodine at 150 mcg which was clearly enough to eradicate the epidemic of goiters that plagued certain iodine-deficient areas of America in the early 1900's.

In 1924 the state of Michigan studied 66,000 school age children, of whom 40% had goiters. After the introduction of iodized salt into the diet, by 1928, 75% of all kids with goiters were cured. By 1950, iodine deficient goiter disease was basically eradicated (8).

Iodized Salt: Not an Adequate Source of Iodine

While iodized salt offered enough iodine to eradicate goiter disease, iodine consumption today may not be adequate to protect thyroid function. Today, more than 10% of the American population requires thyroid medication.

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

Salt is unfortunately not the greatest carrier of iodine. After salt is exposed to air for 4 weeks, the salt shaker loses 100% of its iodine content. Because salt has been condemned by the medical establishment as a risk factor for high blood pressure and heart disease, salt consumption, and thus ingestion of iodine, is way down (10).
In addition, many health conscious folks have stopped using refined iodized salt because it is loaded with aluminum and is thought to leach minerals out of the body. Most people have switched to sea salt or a mineral salt which only contains trace amounts of iodine.

Iodine in Bread Has Been Replaced With Dangerous Bromine

Probably the biggest blow to our dietary iodine levels was in 1980 when iodine stopped being used as a dough conditioner in baked goods. From 1960 to 1980, one slice of bread would fulfill the RDA requirements for iodine because it was in all baked goods. Sadly, the iodine in bread was replaced with bromide, which is a halogen that competes with iodine receptors. Not only did bromide replace iodine in our diet, it may be robbing iodine from our cells and the thyroid, which may explain the recent comeback of goiter disease.

Fluoridated and Chlorinated Water Depletes Iodine

It doesn't stop there. Fluoridated and chlorinated water may compete with iodine receptors. Like iodine, chlorine and fluoride are halogens, meaning they attach to the same receptors in the body. If your iodine receptors are attached to a chlorine or fluoride molecule, they won't be available to uptake iodine.

Fluoride is in toothpaste and some drinking water, and chlorine is in every flame retardant fabric, your shower, some drinking water, most hot tubs, and pools.

Many people don't know that fluoride was used through the 1950's to suppress

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

thyroid function in cases of hyperthyroidism in South America and Europe (1).

Iodine May Play a Key Role in Healthy Cell Replication

In Japan, where the rate of breast cancer is one of the lowest in the world, they consume very large amounts of iodine daily. While our RDA is just 15% of 1 milligram, the average Japanese person ingests 13.8 mg of iodine each day, which is more than 100 times our RDA. Based on these findings, many experts are suggesting about 3-6 mg of iodine per day for optimal support (11).

The Japanese have one of the longest life expectancies in the world, of age 81 for women, and very low levels of breast, endometrial and ovarian cancer. The Japanese also have very low levels of fibrocystic breast disease, lower levels of prostate cancer, and very low levels of thyroid disease (12).

It is well known that the increased exposure to estrogens from plastics, a toxic environment, and synthetic Hormone Replacement Therapy have increased cancer risk. Optimal iodine levels have been shown to decrease responsiveness to estrogen (13). Research also indicates that iodine increases apoptosis – natural and timed cell death (14). Iodine may also balance the concentration of estrogens in the body by building the amount of good estrogen (estriol) and decreasing less good estrogens (estrone and estrodiol) (15).

Symptoms of Iodine Deficiency

- Fatigue
- Blood levels of TSH greater than 2
- Intolerance of cold
- Cold hands and feet
- Foggy thinking
- Increased need for sleep
- Dry skin
- Thinning hair
- Constipation

The most common symptoms of an iodine deficiency are related to ***hypothyroidism*** – low thyroid function. Unfortunately, this is not always picked up on a blood test. Most doctors do a thyroid screening with a blood test called TSH, Thyroid Stimulating Hormone. TSH is produced at higher levels when the thyroid is not keeping up with

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

the production of thyroid hormone. Because .465 – 4.68 uIU / mL is considered normal, most doctors won't treat you even if you may have thyroid symptoms. Today, there is a growing consensus that a TSH greater than 2 is an indication of low thyroid and that a complete thyroid diagnosis includes an axillary temperature test, a comprehensive battery of blood tests including a reverse T3 as well as a thorough evaluation of symptoms rather than just an altered TSH test. Please see a qualified doctor to order .

If you are experiencing fatigue, intolerance of cold, cold hands and feet, foggy thinking, increased need for sleep, dry skin, thinning hair, and constipation, you may have a thyroid issue.

Food Sources of Iodine: Iodine Rich Foods

Enjoy seaweed as a dietary source of iodine

- Seaweed
- Cod, sea bass, haddock, perch
- Salt (iodized), not exposed to air for more than 4 weeks
- Potato with peel, baked
- Milk (cow's)
- Fish sticks
- Shrimp
- Turkey and Chicken
- Beans, cooked
- Tuna, canned in oil
- Egg, boiled

Diets that are at risk for iodine deficiency include those void of ocean fish and sea vegetables, reduced salt (or consuming sea salt replacements instead), those rich in

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

baked goods containing bromide, which depletes iodine, and vegetarian and vegan diets. Some meat and dairy farms still use iodine to disinfect equipment, thus eating meat and dairy may offer a steady dose of iodine. Vegetarians who get their nutrition from iodine-depleted soils have significantly low levels of iodine. In one study, iodine deficiency was noted in 25% of vegetarians and a whopping 80% of vegans (16).

Ayurvedic Herbs Found to Support Thyroid

Ashwagandha – supports thyroid function and is a natural adaptogen for stress
Manjistha – supports natural lymphatic drainage from the head and neck
Guggul – supports natural thyroid detoxification
Sea Vegetables – provide iodine and other minerals for thyroid support

Iodine Supports the Lymphatic System and Breast Health

According to Ayurveda, iodine is a natural lymph mover. When the lymph becomes congested, certain lymph sensitive tissues react. The breasts will swell during menses, which indicates that lymph drainage from the breast is compromised. When the lymph becomes congested, the cells cannot remove their waste and the white blood cells in the lymph and the immune system become stuck in traffic. This can make the breasts toxic because they are an area of lymph concentration.

When the lymph system slows down, the affected tissues improvise because they can't bring in new oxygen-rich blood. If the body loses adequate blood flow – often due to poor lymph drainage – the ovaries may become cystic, the uterus can accumulate fibrous tissue, the breast can become lumpy or the muscles will become filled with fibrous scar tissue (a tissue that doesn't use very much blood to function) that may cause pain with movement.

Symptoms of Iodine-Deficient Lymphatic Congestion

- Skin irritation
- Sore joints
- Aching hands and feet
- Cold hands and feet
- Swollen or sore breasts
- Swollen belly
- Cellulite

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

- Sore throats
- Allergies
- Headaches
- Chronic colds
- Cyst formation
- Accumulated fibrous or scar tissue

Are You Iodine Deficient?

See a qualified medical doctor.

Step 1: Take your first morning temperatures under your arm before getting out of bed for one week and find the average. If it is below (97.3) F, you may have low thyroid.

Step 2: Check your TSH (Thyroid Stimulating Hormone) levels. If they are above 2 uIU / ml, it indicates low thyroid function. This is standard on most blood tests. This should be combined with a battery of thyroid tests and, when possible, with a reverse T3 and a free T3.

Step 3: Evaluate symptoms mentioned above for iodine deficiency, hypothyroid and lymphatic congestion.

NOTE: *If your thyroid has always tested normal, your first morning temperature is normal and you haven't recently begun experiencing any of the classic symptoms of hypo-thyroid (like fatigue, intolerance of cold, cold hands and feet, foggy thinking, increased need for sleep, dry skin, thinning hair, and constipation), then your thyroid may be functioning well, but you may still be iodine deficient and accumulating cellular toxicity.*

Step 4: The most accurate test to determine an iodine deficiency is the 24 Hour Urinary Iodine Load Test. You take a 50 mg tablet of iodine and collect urine for 24 hours, then send it to a lab to be evaluated. If you have iodine sensitivity from eating shellfish or lobster, do not do this test.

Step 5: While the best test for iodine is the 24 Hour Urinary Load Test, the Iodine Spot Test (below) can in some cases screen for a gross iodine deficiency. If there are any health concerns, I strongly suggest a consult with your doctor.

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

Iodine Spot Screen*: *To do a spot test, use a q-tip to apply a 2-inch thick square of 2% Iodine Tincture (found in the first aid section of the grocery store) on your inner forearm. Monitor how many hours it takes for the patch to totally fade. If your iodine levels are normal, the iodine spot will take 24 hours to fade. If it fades in less than 12 hours, consider further testing. Some people find that it is helpful to set their watch or cell phone to beep every hour as a reminder to check their patch. Water does rinse off the spot test, so wait to bathe, swim, etc., until the patch has faded on its own. It's best to apply the patch first thing in the morning after a shower.*

References

1. Hollowell, JE et al. Iodine Nutrition in the United States. National Health and Nutrition Examination Surveys I and III. J Clin Endocrinol Metab, 83:3401-3408. 1998
2. Brownstein, Iodine, Why You Need It. Medical Alternative press, 2009. p 50
3. WHO IBOD 12 Nov. 1998
4. Epidemiology. 1998;9(1): 21-28, 29-35
5. Brownstein, Iodine, Why You Need It. Medical Alternative press, 2009. pg 119
6. 35th Annual Meeting of Society for Epidemiological Research, Seattle WA. June 2000
7. Brownstein, Iodine, Why You Need It. Medical Alternative press, 2009, pg 119
8. Kimball, O.P. Prevention of Goiter In Michagan and Ohio. JAMA 1937;108:860-864
9. Flechas, J. Orthoiodosupplementation in primary care practice. The Original Internist. 12(2):89-96, 2005
10. Environ Sci Technol. 2008, Feb 15;42(4)::1315-23
11. Abraham, G.E. Orthoiodosupplementation, The Original Internist, 9:30-41, 2002
12. Bogardus, aG. Surgery. 1960, 49,461.
13. Int J. of Med. Sci. 2008 5:189-96
14. Vitale, M. Iodide excess induces apoptosis in thyroid cells. Endocrin, 141. 2000.
15. Wright Jonathan. Presentated at ACAM. Nov, 2005. Anaheim CA
16. Ann Nutr Metab. 2003;47(5):183-185

Article title: Iodine Deficiency
Author: Jacqueline Fields, MD
Date: October 2014
Publisher: The Healing Gardens, Fort Collins, Colorado
Pages: 9
Web source: http://thehealinggardens.org/images/PDFs/Article%20Archives/IodineDeficiency.pdf

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 | www.TheHealingGardens.org

©2014 The Healing Gardens, 315 Canyon Avenue, Fort Collins, CO 80521 | 970.472.6789 |
www.TheHealingGardens.org