Iodine in Thyroid and Total Body Health

From her Restorative Endocrinology™ Series of Seminars

presented by

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HORMONES OF THE HYPOTHALAMIC-PITUITARY AXIS

All Hypothalamus releasing hormones are pulsatile in their secretions. For example, GnRH releases in spurts about every 80 minutes. A continuous release of GnRH would suppress gonadal function.

GHRH
Growth hormone-releasing hormone

TRH
Thyrotropin releasing hormone (also stimulates prolactin release)

TSH
Thyroid-stimulating hormone

Prolactin—hormone that stimulates milk production

GnRH—Gonadotropin-releasing hormone

CRH—Corticotropin-releasing hormone

Somatostatin—hormone that inhibits growth hormone, GH, ACTH, and TSH

Growth Hormone appears to have little direct effect in the body. Somatomedins are the active forms of GH.

Liver converts GH to somatomedins
AKA Insulin-like growth factors (IGF)

Growth hormone-releasing hormone (GHRH) and thyrotropin releasing hormone (TRH) have direct effects on the hypothalamus and pituitary gland, respectively.

Epinephrine and norepinephrine are released by the adrenal medulla and regulate the release of CRH.

CRH—many factors both neural and hormonal regulate secretion of CRH, since CRH is the final common element directing the body’s response to all forms of stress.
THE THYROID GLAND

WHAT IS THE THYROID GLAND?
It is the largest of the seven endocrine glands, and is located in the front of the base of the neck. Being the largest endocrine gland, it also has the most extensive blood supply.

WHAT DOES THE THYROID GLAND DO?

1. Controls the rate at which the body produces energy from food and therefore has a primary effect on overall energy levels. It regulates digestion, oxygen consumption and mobilization of fat from storage.

2. Affects the operation of all body processes and internal organs. In a healthy balanced body, the thyroid gland helps increase the activity of virtually all organs, glands and cells.

3. Helps control body temperature by regulating heat and energy production.

4. In children, it helps control the body’s rate of growth as well as brain development, and has a primary affect in determining IQ.

5. Exerts a profound effect on mood and emotion through its action on brain chemistry.

6. The thyroid is designed to play an important role in immune function, and if it contains sufficient iodine, exerts a profound antimicrobial and antiseptic affect body-wide.
   - “All the blood in the body passes through the thyroid gland every 17 minutes.
   - Because the cells making up this gland have an affinity for iodine, during this 17-minute passage the gland’s secretion of iodine kills weak germs that may have gained entry into the blood through an injury to the skin, the lining of nose or throat, or through absorption of food from the digestive tract.
   - Strong, virulent germs are rendered weaker during their passage through the thyroid gland. With each 17 minutes that rolls around they are made still weaker until finally they are killed if the gland has its normal supply of iodine.”

1Folk Medicine, by D.C. Jarvis, MD, Fawcett Publications, March 1995 (Pg. 138). A famous doctor’s guide to folk medicine practices of Vermont – the nature secrets of honey, apple cider vinegar and foods for health.
MOST COMMON TYPES OF HYPOTHYROID PROBLEMS

1. Functional hypothyroidism from weakened adrenal glands (stress handling glands) due to prolonged stress.

2. Functional hypothyroidism caused by Estrogen Dominance (an imbalance between levels and proportions of estrogen and progesterone).

3. Nutrient deficiencies required for normal thyroid hormone synthesis, release, and function.

4. Thyroid Disease—Primary Hypothyroidism (high TSH and possibly low T۴ or T۳)
   ➢ Thyroid hormones are usually prescribed for thyroid disease. However many women on thyroid hormones may have test results that appear normal, but are still suffering from many hypothyroid symptoms.
   ➢ For successful treatment of any thyroid disease, the first three problems mentioned above must also be addressed.

NOTE

FROM THE PDR (Physicians Desk Reference)

SYNTHROID

Under “Contraindications”
“Synthroid is also contraindicated in patients with uncorrected adrenal insufficiency, as thyroid hormones increase tissue demands for adrenal cortical hormones and thereby precipitate acute adrenal crisis.” (See Precautions)

Under “Precautions”
“Use of Synthroid in patients with concomitant diabetes mellitus, diabetes insipidus or adrenal cortical insufficiency may aggravate the intensity of their symptoms.”
THE STEROID HORMONE PATHWAY
IN ADRENALS, OVARIES, TESTES, AND PERIPHERAL TISSUES

Some of the roles of steroid hormones:

→ Stress handling  → Body repair & regeneration (anti-aging)
→ Reproduction/sex hormones  → Healthy brain function, mood, cognition, & memory
→ Energy production  → Overall strength, stamina, and vitality
→ Stable blood sugar (fuel) levels

Cholesterol
Delivered to the adrenals, ovaries, testes, and peripheral tissues via low density lipoproteins (LDL’s)

DHEA (anabolic hormone)  Pregnenolone  Progesterone

Androstenedione  17-hydroxyprogesterone

Aldosterone

Estrone (E₁)  Testosterone  Estriol (E₃)

Cortisol (anabolic/catabolic hormone)

DHT  Estradiol (E₂)
**ASI Example**

**Diagnos-Techs, Inc.**

Clinical & Research Laboratory  
PO BOX 389662, Tukwila, WA 98138-0662  
Tel: (425) 251-0596  
CLIA License # 50D0630141

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**ASI Example of Adrenal Insufficiency**

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
<th>Result</th>
<th>Ref Values</th>
</tr>
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<tr>
<td>ASI</td>
<td>Adrenal Stress Index</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAP</td>
<td>Free Cortisol Rhythm</td>
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<tr>
<td>07:00 - 08:00 AM</td>
<td>4 Depressed</td>
<td>13.74 nM</td>
<td></td>
</tr>
<tr>
<td>11:00 - Noon</td>
<td>3 Depressed</td>
<td>5.10 nM</td>
<td></td>
</tr>
<tr>
<td>04:00 - 05:00 PM</td>
<td>1 Depressed</td>
<td>3.8 nM</td>
<td></td>
</tr>
<tr>
<td>11:00 - Midnight</td>
<td>&lt;1 Depressed</td>
<td>1.4 nM</td>
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</tr>
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**Cortisol Burden:**

- **9**

**Figure 1. Circadian Cortisol Profile**

The cortisol burden reflects the area under the cortisol curve. This is an indicator of overall cortisol exposure, where high values favor a catabolic state, and low values are sign of adrenal deterioration.

**Figure 2.**

The Cortisol release inducers fall into 4 broad categories shown in the adjacent flowchart. Long term adrenal axis maintenance and restoration, require optimization of all the cortisol inducers.

**Remarks:** Depressed morning cortisol, < 13 nM, is suggestive of marginal HPA (Hypothalamic-Pituitary-Adrenal) performance. Normal rhythms exhibit highest cortisol value for the day at 7 - 8 AM.

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**This test is available through Diagnos-Techs, Inc.**

800-878-3787  
www.diagnostechs.com

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Iodine in Thyroid and Total Body Health  
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IODINE INFORMATION SUMMARY

INITIAL CONSIDERATIONS
1. Two thyroid researchers in 1948 suggested that more than .2mg (200 mcgs) of iodine would result in thyroid gland suppression. This became known as the Wolff-Chaikoff Effect.

2. This premise helped sell a lot of more expensive thyroid drugs for the pharmaceutical companies rather than the previously used inexpensive iodine.

3. Further investigation of this faulty study as well as further research has proven this concept highly suspect. Actually, just plain wrong. (Visit my website www.restorativeendocrinology.com for links to iodine research as well as see the footnotes at the end of this handout for relevant resources and research information.)¹ ²

4. For a number of reasons discussed in these research findings available through my website, iodine deficiency is now widespread and often severe.

5. Sufficient levels of iodine are needed to achieve whole body Iodine Sufficiency. Important to understand is that the thyroid and many other tissues of the body require considerably more iodine than the RDA 145 mcgs. According to research findings, around 13 mg/day, is needed in the body as follows:
   a. Thyroid gland: 3-6 mg/day
   b. Breast tissue: 5mg/day with larger breasts needing more
   c. Combined other tissues of the body, including adrenals, ovaries, testes, insulin receptors and much more: 2 mg/day

6. Iodine belongs to the halogen family of elements. Other halogens such as fluorine, chlorine and bromine can interfere with iodine absorption (Fl, Cl & Br) or actively displace it from the tissues (bromine, a goitrogen).

7. During Iodine Loading, halogen toxins will be excreted as well as heavy metals such as mercury, cadmium, arsenic and others.

8. Iodine Loading too quickly can and usually does cause considerable and sometimes severe detox reactions, as the halogens and heavy metals are eliminated. These detox reactions are often mistakenly blamed on iodism, or toxic reactions to iodine.

9. Iodine Loading is best accomplished using a whole person, whole body approach, using nutritional synergists and not just iodine alone, as well as finding the individual’s Iodine Tolerance, and not just using a standard one-size fits all dose.

10. Patients with Hashimoto’s Thyroiditis, although iodine deficient, will not initially tolerate Iodine Loading and must be worked with differently. (See Hashimoto’s Thyroiditis in the Thyroid, Adrenal & Blood Sugar manual)

(Continued on next page)
CONDITIONS SHOWN TO BENEFIT FROM IODINE

1. Hypothyroidism, sub-clinical hypothyroidism, goiter, enlarged thyroid and other hypothyroid conditions
2. Hyperthyroidism
3. Protection against thyroid cancer
4. Protection against breast cancer, overall breast health and protection from breast cysts
5. Cancers, especially hormonally mediated cancers (i.e. breast, uterine, ovarian, prostate)
6. Iodine is needed by all of the endocrine glands, especially the thyroid, breasts, adrenals, gonads and insulin receptors and thyroid receptors
7. Increases sensitivity of all hormone receptors
8. Fibrocystic breast disease, ovarian cysts
9. Spontaneous abortion, and for overall fertility in both sexes, reproductive tract health
10. Fibromyalgia and chronic fatigue
11. Nervousness, anxiety, restlessness and nerve conditions such as tremors
12. Supports overall energy production and sense of wellness
13. Cognition and memory, ADD, ADHD, brain fog, senility
14. Headaches, migraines
15. Depression and other mood problems and personality disorders
16. Helps increase brain function, alertness and can increase overall intelligence
17. Treatment for delayed physical and mental development; cretinism and Down’s Syndrome
18. Zombification (The term coined by Dr. Guy Abraham for the dumbing and dulling of brain function that occurs in the presence of whole body iodine depletion.)
19. Insulin resistance, diabetes, syndrome X (Increases insulin receptor sensitivity), obesity
20. Dermatological conditions
21. Allergies, excess mucus production
22. Chronic illnesses including CVD, liver disease, high cholesterol and syphilis
23. Sub-acute and chronic infections
24. COPDs (Bronchitis, asthma, emphysema) and other pulmonary disorders
25. Coronary Artery Disease, atherosclerosis, hypertension, palpitations, tachycardia
26. Atrial Fibrillation and other cardiac arrhythmias
27. Halogen excretion and heavy metal excretion
28. Protection from radioactive fallout
29. Deafness
30. Lack of sweat
31. Hemorrhoids
32. Resistance to parasitic infections – iodine sufficiency confers parasite resistance in the cells and tissues. This is true for plants too (use kelp in your soil).
33. Dupuytren’s contracture; keloids; parotid duct stones; sebaceous cysts
34. Peyronies (use SSKI externally)

1 For a short concise book for both doctor and lay person information see Iodine—Why You Need It; Why You Can’t Live Without it, 2nd Edition, by Dr. David Brownstein, MD. Visit www.drbrownstein.com or call 888-647-5616.
3 NOTE: Aminodarone (brand name Cordarone, Pacerone) is a medication taken for arrhythmias - in particular, ventricular fibrillation and ventricular tachycardia. It has many severe potential side effects. It contains a toxic form of iodine, for which its side effects are usually blamed.
IODINE ALLERGIES OR REACTIONS & DETOXIFICATION

1. Many reactions to iodine thought to be allergies or iodism are detoxification reactions, especially when trying to Iodine Load too quickly. When bromine, chlorine, fluorine, and the toxic metals excrete from the body too rapidly, the patient becomes unnecessarily sick from detoxification reactions.

2. The next most common reason for seeming reactions to Iodine Loading is lack of appropriate nutrient synergists. In this case, iodine is not being properly taken up into the tissues. Donna Wild’s Iodine presentation discusses this in detail and gives specific solutions. This is also discussed on the Iodine Loading Protocol pages.

3. Allergies to iodine are often allergies to seafood, not the iodine. However, if an allergy is suspected consider NAET work. Also, iodine from kelp seems to cause the least amount of reaction among the many iodine sources.

4. Reactions to iodine: (Remember, a key to minimizing reactions to iodine loading is adding appropriate nutrient synergists.)
   a. Hyperthyroid function—this can occur in some people with thyroid nodules (determined with ultrasound). Patients with thyroid nodules should be titrated up slowly and watched carefully.
   
   b. Hashimoto’s Thyroiditis—although these patients are usually iodine deficient, iodine can intensify thyroid gland destruction and must be worked with carefully. Monitor these patients with frequent thyroid tests, such as DiagnosTechs’ Short Thyroid Panel (STP).
   
   c. Detoxification—occasionally, detox-like symptoms such as fatigue, aches and pains, excessive mucus production, headache, yellow-colored excretions (from excreting bromine), etc will temporarily occur (often from halogen excretion).
   
   d. Iodism—a rare reaction to excessive amounts of iodine. Symptoms include increased lacrimation and salivation, rhinitis, weakness, skin rash, and frontal headaches.

IODINE SUPPLEMENTATION WHILE TAKING THYROID HORMONES

- Iodine supplementation will often allow dosage of thyroid hormone replacement to be eventually reduced or eliminated. Titrate iodine dosage up gradually and monitor carefully.

- Have patient watch for hyperthyroid symptoms (palpitations, loose stool, racing feeling, sleeplessness, are some possible examples) which would indicate the need for the prescribing doctor to lower the thyroid hormone dose.

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4 For allergies to iodine consider NAET (Nambudripod’s Allergy Elimination Technique) at 1-714-523-3068 or www.naet.com.
IODINE LOADING PROTOCOL
A continuation of this information is available on Dr. Lang’s website
www.restorativeendocrinology.com

INITIAL INFORMATION
1. Iodine Loading should be done gradually because it will cause the excretion of the other halogens – bromine, chlorine, and fluorine – which can cause considerable detoxification reactions if done quickly.

2. In addition, Iodine Loading promotes the excretion of other toxins, including the heavy metals mercury, lead, cadmium, and arsenic, all of which should be excreted gradually to avoid unnecessary detoxification reactions.

3. Selenium, magnesium, and a source of unsaturated fatty acids such as flax seed oil or fish oil, as well as other possible synergists, should always accompany Iodine Loading.

4. Iodine Loading requires doses from 3 mgs up to 50 or more mgs of Iodine for several months or longer and sometimes higher doses in larger individuals and individuals with higher fat cell content. However, iodine is never given alone. Appropriate nutrient synergists must be determined for each individual and individual tolerance for the amount of iodine will vary greatly. There is no single arbitrary iodine dose size that fits all.

5. Drs. Guy Abraham and David Brownstein and others have researched and documented the severe iodine deficiency in our population and the need for Iodine Loading. Donna Wild has brought all of this information and more together and explains it in an excellent comprehensive lecture included in Mark Anderson’s, 2006-2007, Back to School for Doctors series. My website also provides more iodine information.

6. Be sure you understand how to test for iodine status, understand the meaning of Iodine Tolerance, Iodine Sufficiency and Iodine Loading, and Common Iodine Detox Symptoms, and are clear on the nutrient synergists for Iodine Loading.

7. Iodine Loading is not a race. It’s all right that it takes time to accomplish. There are enormous physiological changes taking place while the loading is happening. I strongly recommend listening to Donna Wild’s excellent presentation on Iodine included in Mark Anderson’s, 2006-2007, Back to School for Doctors, to more fully appreciate the scope of iodine function and the art of Iodine Loading.

1 For more iodine information and research links, visit my website at www.restorativeendocrinology.com. Also see my Iodine Information Summary pages available on the website.
