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THYROID BALANCE

Summary: Thyroid hormone affects every cell in the body. Many things affect the thyroid and its hormones. Achieving thyroid balance involves consideration of ovarian and adrenal hormones, stress levels, possible antibody attacks, and inheritance of enzymes with reduced levels of efficiency. The thyroid hormones themselves affect body temperature, energy, thinking, metabolic rate, weight, bowel function, menstrual cycles, fertility, hair growth and appearance. The possible symptoms from mild thyroid imbalance are so varied that they can often be overlooked or misdiagnosed, especially if the blood work-up is incomplete. Because of the loss of Progesterone production, as women enter the menopausal transition, they are especially susceptible to low thyroid symptoms. In many patients, very small amounts of thyroid supplementation can make a huge difference in achieving thyroid balance and health.

Introduction: The Thyroid gland is a small fleshy structure found on the front of the neck just above the collarbone and below the Adam's apple. Thyroid hormones control body temperature and the rate at which we burn food and use oxygen. Thyroid problems are more common in women than in men. Here is one reason why: In women, Progesterone stimulates Thyroid function around the body. Testosterone has a similar effect in men. Women only produce Progesterone when they ovulate, produce an egg. As women age, ovulation becomes less frequent. The transition to menopause marks the end of ovulation, and with it, the near total loss of progesterone. As men age, Testosterone gradually declines, but still remains in significant amounts even into old age. Loss of Progesterone makes women more vulnerable to symptoms of a weak thyroid.

What are the symptoms of too little thyroid hormone? (Hypothyroidism) Tiredness; **feeling cold** when others are warm; weight gain; depression; forgetfulness, sometimes called "Brain Fog"; **hair loss**; constipation; dry, coarse hair; loss of the outsides of the eyebrows; puffy face and eyes; thickened neck, called a Goiter; slow heartbeat; dry skin; heavy menstrual periods; and brittle nails.

Too much thyroid hormone? (Hyperthyroidism) Many of the symptoms are the opposite of low thyroid, Some are: nervousness, irritability and difficulty sleeping; bulging eyes with an unblinking stare; rapid heartbeat; increased sweating; feeling hot all the time and heat intolerance; unexplained weight loss; scant menstrual periods; frequent bowel movements, warm moist hands; and a fine tremor of the fingers and hands. There can be fatigue and confusion.

What commonly causes Thyroid problems? One cause is the result of the body producing antibodies that attack the Thyroid gland. These antibodies can be measured as TPO antibodies, AntiThyroglobulin Ab or TSI (Thyroid Stimulating Immunoglobulin). The autoimmune condition, **Hashimoto's Thyroiditis**, was named after a Japanese doctor. In the early stages of the disease, there can be thyroid overproduction. After the initial hyperthyroid phase of the disease, it is common that the gland gets worn out and becomes hypothyroid, producing too little thyroid hormone. Hashimoto's Thyroiditis can be very complicated, with rising and falling hormone levels that must be closely followed and treated

Are their other causes of thyroid disease? Many individuals and their families have low thyroid levels simply because the gland does not produce enough hormone. This is quite common in Northern Europeans. Occasionally, a thyroid cancer may cause thyroid symptoms.

I'm under a lot of stress and I feel tired all the time. Constant stress can cause the Adrenal gland to produce excessive amounts of the stress hormones Cortisol and Adrenalin. Although the exact mechanism is not clear, an excess level of these hormones stimulates the production of **Reverse T3**, an inactive form of thyroid hormone. Instead of increasing energy in these times of stress, this actually results in a **relatively low thyroid**

level. Elevated stress hormones also cause cravings for fat and carbohydrate. Excessive cortisol plus low thyroid, **results in a feeling of fatigue, hunger and weight gain.** Watching calorie intake, exercise and other stress reduction activities such as Yoga, meditation, breathing techniques and changing to a less stressful life style can all be of help. Antidepressant medications may also help.

There are two main thyroid hormones. T4 is the main product of the thyroid gland. It is called T4 because each molecule of hormone has four Iodine atoms. The thyroid gland also makes a small quantity of T3. Each molecule of T3 has only three Iodine atoms. An enzyme called deiodinase converts T4 into T3. Some families' deiodinase works more efficiently than others resulting in chronically low T3 levels for family members. T3 is much more powerful than T4 but is destroyed much more quickly, lasting only a few hours. T4 lasts for days and acts as a reserve hormone supply for the making of T3.

What thyroid blood tests do you usually obtain? I usually obtain TSH (thyroid stimulating hormone), Total T4, Free T4, Total T3, Free T3 and TPO Antibodies. If needed, I may order TSI and ATG antibodies, TBG (thyroid binding globulin) and reverse T3. There are many older indirect thyroid function tests that are less commonly used.

But my doctor tested my thyroid and said it was normal? Many doctors measure only TSH. Although TSH is said by many authorities to be sensitive to thyroid levels, I have found that frequently is not the case. I measure how the Pituitary gland is directing the Thyroid gland, **and** the Thyroid gland's response. Every day, I find women with normal or even low TSH, who have low levels of total or free thyroid hormones. **Hashimoto's Thyroiditis** is actually quite common, being present in about 17% of women over 35 years old. It is less common in men. I find new cases every week, often with normal TSH levels.

Could I have Low Thyroid and still have "normal" blood tests? Laboratories define as abnormal, only those thyroid values in the lowest 2½ % and highest 2½% of the population. After reviewing thyroid tests on thousands of women and men, I have found that many people in the lower 20-30% of the test range have symptoms of Hypothyroidism. **Doctors frequently ignore the symptoms of patients with moderately reduced thyroid levels.**

What if I have a low level of T3? Although their thyroid gland may be making sufficient T4, it may not be converted to T3 in adequate amounts. Few physicians, even Endocrinologists, check T3 levels. T3 is available under the brand name of Cytomel. Armour Thyroid, freeze dried pork thyroid, is 80% T4 and 20% T3. Compounding pharmacies can make capsules containing any needed combination of T3 and T4. Since T3 lasts only a few hours, it may be necessary to take several doses spread throughout the day.

Conclusion: A large segment of the population is suffering from various forms of Thyroid dysfunction. Doctors frequently miss the diagnosis and ignore the patient's symptoms. Safe, inexpensive, small amounts of bioidentical thyroid supplements are readily available and can help many people feel much better.

Further Reading: Check the Thyroid section of **REFERENCE BOOKS & WEBSITES**