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What Every Chiropractor (and MD) Should Know About the Thyroid

By Daniel Hough, DC

Based on blood tests, which are not very sensitive at detecting mild hypothyroidism, it is estimated that between 1 percent and 4 percent of adults have moderate to severe hypothyroidism, and 10 percent to 12 percent have mild or subclinical hypothyroidism.⁴ Most cases go undetected and untreated. Chiropractors have a unique opportunity to diagnose and treat these patients, as musculoskeletal pain is a major symptom of hypothyroidism, and these patients present to chiropractic offices daily.

The thyroid gland produces two hormones of significance: thyroxine (T4) and triiodothyronine (T3), in a ratio of 9:1, respectively.² T4 is converted to T3 in the blood and peripheral tissues. T3 is thought to be the active form, and T4 may be predominantly a storage form, as T3 persists for only a short time. It is believed the true intracellular hormone is principally T3, rather than T4.²

Thyroid hormones control metabolism and virtually all other processes in the body. Without thyroid hormones, the body cannot form RNA, which is needed for the process of transcription necessary to produce proteins and enzymes.² Consequently, without thyroid hormones, the body cannot produce proteins to repair damaged tissues, or enzymes, which catalyze virtually all reactions within the body. The release of thyroid hormones by the thyroid gland is initiated when thyroid stimulating hormone (TSH) is secreted by the anterior pituitary gland. Thyroid releasing hormone (TRH), secreted by the hypothalamus, initiates the release of TSH. Most of the thyroid hormones in the blood are bound to thyroid-binding globulin. The free portion of the thyroid hormone is the true determinant of the thyroid status of the patient.¹

Mild to moderate hypothyroidism is often missed by medical doctors because they predominantly rely on TSH levels, which may miss secondary and tertiary hypothyroidism. Also, TSH levels do not reflect low T3 levels. Low T3 levels do not cause an increase in TSH if T4 levels are normal, although high T3 levels will inhibit TSH. Sometimes, MDs also order a thyroid profile, which shows total T4 and T3 uptake and free

thyroxine index. T3 uptake has nothing to do with T3, but is an indirect measurement of unsaturated thyroid binding globulin. It is inversely proportional to thyroid-binding globulin.¹ Free thyroxine index (FTI) is a calculated value arrived at by multiplying total T4 times T3 uptake. It is an indication of the amount of unbound, free T4 available. The thyroid profile does not alert the physician to low T3 levels, or levels of the predominantly active form of thyroid hormones.

Prior to the development of blood tests for thyroid function, physicians relied on basal temperature, Achilles reflex time, and signs and symptoms to diagnose low thyroid levels. Basal temperature is thought by some,^{4,6} along with signs and symptoms, to be a more accurate measure of thyroid status. Other signs and symptoms of hypothyroidism include: musculoskeletal pain; fibromyalgia; headaches; fatigue; temperature intolerance; weight gain (although some hypothyroid patients can be quite thin); depression; hair loss; loss of the lateral third of the eyebrows; adult-onset acne; loss of libido (in men); irregular menses (in women); recurrent infections; impaired cognition; attention deficit disorder (ADD); hypercholesterolemia; dryskin; and gouty arthritis.^{4,5}

Many times, when I question patients about the thyroid, they report that their medical doctor performed blood tests and told them their thyroid was fine, then prescribed Prozac for their depression; amitriptyline for their fibromyalgia; anti-inflammatories for their musculoskeletal pain; oral contraceptives for their irregular menses; low levels of antibiotics for their acne; Viagra for the loss of libido; Ritalin for their ADD; allopurinol for their gout; and/or Lipitor for their high cholesterol.

In the majority of cases, the cause of hypothyroidism is unknown. Some have speculated on the causes, however. Dr. D.E. Wilson, author of *Wilson's Syndrome*, believes emotional or physical trauma is the cause.³ Dr. Arthur Croft presents good evidence that cervical flexion/extension injuries can damage the thyroid.⁶ Others speculate that fluoride and chlorine, which compete for absorption with iodine, prevent proper thyroid function. Foods known as *goitrogens*, including turnips; cabbage; mustard; cassava root; soybeans; peanuts; pine nuts; and millet, inhibit thyroid function.⁴ Many prescription drugs are known to depress thyroid function, including lithium; bromide; tricyclic and monoamine oxydase inhibitors; antidepressants; dopamine; and adenosine. Environmental contaminants, including dioxins and PCBs, also inhibit thyroid function.⁵

There are likely multiple etiologies. I rely on signs and symptoms (including a slow or diminished Achilles reflex and low basal temperature) to make the diagnosis. I have my patients take oral temperatures first

thing in the morning, prior to rising from bed. Males and postmenopausal women can take their temperature any time of the month; menstruating women are advised to take their temperature on days two and three of menses. I believe a temperature below 97.5 F indicates hypothyroidism. (Some authors believe an axillary temperature is more accurate, but I find better patient compliance with oral temperatures, as axillary temperature requires 10 minutes.)

Basal temperature is only a piece of the puzzle. Patients can have a normal temperature and still have mild hypothyroidism. Occasionally, I order a free T3 lab test, usually to convince the patient (or their MD) that they need exogenous thyroid. Free T3 levels are also helpful when the patient is already taking Synthroid and needs to be switched to desiccated pig thyroid.

Most of my cases are mild to moderate. Medical doctors many times do properly diagnose the moderate to severe cases, although they generally prescribe Synthroid, which contains only T4.⁷ Armour or Nature-Thyroid would be better choices, as they contain natural porcine thyroxine and triiodothyronine. I use whole glandular desiccated bovine thyroid for mild cases, and prefer a preparation that has not removed the thyroid hormones, such as raw, whole glandulars. For moderate or severe cases, I refer to a naturopath or a knowledgeable medical doctor for Armour or Nature-Thyroid.

Diagnosis and treatment of hypothyroidism in your practice can be rewarding. I find many times that the 10 percent of patients (particularly auto-accident victims) who just do not get better, and will not hold their adjustments, are in fact positive hypothyroid cases. I have used desiccated bovine and referred for prescription desiccated porcine thyroid for years in my practice, with good success.

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