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## For Physicians of Patients Taking Thyroid Hormones

Mild-moderate thyroid insufficiency is quite common and is an unrecognized cause of depression, obesity, high cholesterol, cold intolerance, atherosclerosis, chronic fatigue, and fibromyalgia. It is often secondary, so the TSH is normal, but the FT4 and FT3 levels are low in the reference ranged. Thyroid supplementation to produce higher FT3 and FT4 levels within the reference ranges can improve mood, energy, and alertness; help with weight control, and lower cholesterol levels. I have prescribed thyroid hormones for your patient because his/her symptoms, physical signs, and/or blood tests suggested that he/she had inadequate levels for optimal quality of life and long-term health. If they showed clear improvements, I kept them on the thyroid supplementation. The final dose we decided upon was based on symptoms and signs first, and on free T3 and free T4 levels second. As the TSH was usually normal initially, it is frequently suppressed when thyroid levels are optimized clinically. FT3 and FT4 are usually within the ranges, ruling out significant thyrotoxicosis.

We were all taught that the TSH perfectly portrays a person's thyroid hormone status, supplemented or unsupplemented, and we need only obtain a "normal" TSH to know that our patient had no excess or deficiency of thyroid hormones. In fact, there is no reason to believe that the hypothalamic-pituitary axis is always perfect, and lots of evidence that it is not. TSH-based thyroidology is an unjustified faith in the infallibility of the hypothalamic-pituitary axis. One must instead base the diagnosis and dosing on symptoms first, and on the **free T4** and **free T3** levels second. Even here, "normal" is not good enough. The labs' reference ranges for FT4 and FT3 are <u>not</u> optimal ranges; they are statistics: 95%-inclusive population ranges. They are excessively broad (2 to 3x from bottom to top) and define only the bottom 2.5% of the population studied as "low". The prevalence of hypothyroidism is much greater than 2.5%.

T4-only therapy (Synthroid®, Levoxyl®), to merely "normalize" the TSH is frequently inadequate treatment as the H-P axis overreacts to once-daily oral thyroid hormone peaks, compared to the gland's steady 24-hr glandular secretion. TSH-normalizing T4 therapy often leaves both FT4 and FT3 levels relatively low, and the patient symptomatic. Recognizing this, Nat. Acad. of Clinical Biochemistry guidelines call giving enough T4 to keep the TSH near the bottom of its RR (≤1) and the FT4 at or just above its RR. But this is not sufficient; the ultimate criterion for dose adjustment must always be the <u>clinical response</u> of the patient. I have prescribed natural dessicated thyroid for your patient (Armour, Nature-Throid) because it contains both T4 and T3 (40mcg and 9mcg respectively per 60mg). This assures sufficient T3 levels and thyroid effects in the body. Since NDT has more T3 than the human thyroid gland produces, the well-replaced patient's FT4 will be below the middle of its range, and the FT3 will be high "normal" or slightly high before the next AM dose.

Excessive thyroid dosing causes many negative symptoms, and such patients do not feel well. I suggest lowering the dose in any patient who has developed insomnia, shakiness, irritability, palpitations, overheating, etc.. Atrial fibrillation can unfortunately occur in susceptible patients with any increase in their thyroid levels. It should not recur if the dose is kept lower than their threshold. Thyroid hormone does not cause bone loss, it simply increases metabolism and therefore the rate of the current bone formation or loss. Most older women are losing bone due to their combined sex steroid, DHEA, Vitamin D, and growth hormone deficiencies. The solution is not life-long hypothyroidism, but the correction of their other deficiencies.