

Dr. Richard Guttler and the "Real Thyroid Experts": Their False and Potentially Harmful Beliefs

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Note to Readers: In this critique of Dr. Richard Guttler's beliefs about hypothyroidism, I quote him extensively. The quotations, like his prose in general, are littered with errors in grammar, punctuation, spelling, and syntax. Customarily, when I quote another writer's passage that contains an error, I include the error and follow it with *[sic]* within the quotation. In this critique, however, I don't follow the custom. If I did, the clutter of *[sic]*s would surely distract readers. Simply put: If you see what looks to be an error or a typo, the mistake is Guttler's. And even if you don't see them, there is at least one error (and usually several) in most of the quotations from Guttler.

In one of his newsletters, Dr. Guttler included what he implied were quotations from others. The people apparently wrote to him protesting his attacks on patient advocate Mary Shomon. These quoted statements are written in pure Guttler style: choppy, truncated, declarative, and laden with errors. The writing style suggests to me that Dr. Guttler didn't just copy and paste the people's statements from their emails; instead, he attempted to transcribe them. If so, I also presume that the errors in the "quotations" are his.

I believe the plethora of errors in Guttler's prose is important; carelessness in one area of conduct generally betokens carelessness in other areas. Guttler's written errors are consistent with a pattern of carelessness that, as I show below, includes his false beliefs about hypothyroidism. This pattern has a distinct bearing on the credibility of his judgment as—to quote him—"the real thyroid expert."^[5]

INTRODUCTION

On March 17, 2004, Dr. Richard Guttler wrote derogatory statements in his online newsletter about thyroid patient advocate and best-selling author Mary Shomon.^[2] On March 21, Mary replied on her website.^[1] On March 30, Dr. Guttler reacted by assailing her again.^[5] She again replied on April 1,^[54] and then, in his April 8 newsletter, he once again assaulted her in writing.^[3]

Mary replied to Dr. Guttler each time with her characteristic aplomb. Her replies were thoughtful, tempered, civil, and well-written. In stark contrast, Dr. Guttler's attacks on Mary were littered with the grammatical and spelling errors and the poorly formulated sentences that distinguish his writing. His statements about her were condescending, insulting, and disparaging. His obvious intention was to mock, ridicule, demean, and discredit Mary as a thyroid patient advocate. Indeed, in his first salvo, he wrote, "She is a poor thyroid patient advocate."^[2]

Guttler made his reason clear for derogating Mary as a patient advocate: through her website and books, she promotes beliefs about the diagnosis and treatment of hypothyroidism that are contrary to his own. Her beliefs are contrary to his, he asserted, because she lacks the education and qualifications to responsibly advise thyroid patients. "How can someone like you," he asked, "with no background in thyroid disease put out such bad advice in the name of a thyroid advocate?"

As evidence for her misguiding her readers, Guttler wrote of those who sent him emails protesting his attacks on her: "Your email fans were the most uneducated thyroid patients, I have ever run across in the 7 years on the web answering questions. The emails convinced me that you were filling them with half truths, and out right falsehoods."^[3]

Dr. Guttler wrote that Mary's guidance of her readers might harm them: "There should be a big Pop Up prior to all your ads on your website that states, Thyroid Patients, This site may be hazardous to your

thyroid health.”^[3]

In my opinion, Dr. Guttler libeled Mary. He did so in two ways: by attacking her personally and by accusing her of incompetence. He attacked her personally by writing, “TOP TEN THINGS WRONG WITH MARY SHOMON.” This statement addresses Mary’s *person* rather than her beliefs. In the U.S., one is free to mock, ridicule, or demean another’s ideas, opinions, or beliefs; but not another person’s character.

Guttler accused Mary of incompetence when he wrote, “She is a poor thyroid patient advocate.” In my opinion, this is libelous because Dr. Guttler didn’t cite credible evidence of Mary being incompetent as a patient advocate.

But wait a minute! A defense attorney for Dr. Guttler might argue in a libel case: Guttler *did* show Mary to be a “poor thyroid patient advocate.” He gave evidence in his newsletters and in replying to emails from her defenders. As Dr. Guttler says, he’s “a real thyroid expert,”^[5] and in that Mary publishes beliefs in the thyroid field that are contrary to his, she *must* be disseminating false information. So he’s correct when, as an expert, he writes, “Her statements are not fact but her misguided opinion.”^[5] So, the attorney might conclude, she’s incompetent and therefore a “poor thyroid patient advocate.” Since truth is the ultimate defense against a libel charge, she might as well not sue him. To continue the hypothetical attorney’s line of reasoning, Mary could easily become a *good* patient advocate; all she’d have to do is revise her beliefs so they agree with those of Dr. Guttler.

I would vigorously refute the attorney’s argument, however. I’d contend that it’s not Mary’s beliefs that are false but Dr. Guttler’s. I’d also argue that if he’s truly a “real thyroid expert,” it’s because of something other than holding scientifically-grounded beliefs about hypothyroidism. And I’d present scientific evidence to prove my points.

That’s exactly what I do below—present scientific evidence to prove that Dr. Guttler promotes false beliefs about the diagnosis and treatment of hypothyroidism. I also present evidence to show that some of these false beliefs potentially imperil the health, well-being, and even the lives of many hypothyroid patients. And finally, I explain the dilemma this evidence imposes upon Dr. Guttler.

I’ve written this critique mainly *because* Dr. Guttler’s beliefs risk harming patients. I want to alert patients to studies—in the very field in which Dr. Guttler claims expertise—that point to ominous possibilities: that accepting his false beliefs as true, and permitting those beliefs to guide their treatment, may diminish the quality of their lives or even end their lives prematurely.

DR. RICHARD GUTTLETT’S FALSE AND POTENTIALLY HARMFUL BELIEFS

Dr. Richard Guttler maintains that:

- patients on “adequate” T₄-replacement (“adequate” means that the patient has a “normal” TSH level) cannot possibly gain weight or become depressed because of too little thyroid hormone;
- thyroid function tests are infallible; and
- only a “real thyroid expert,” like him, is qualified to advise thyroid patients and write summaries of research reports for patients and doctors.

In the first two sections below, I critique an extension of Dr. Guttler’s belief that thyroid function tests are infallible: that is, that hypothyroid patients can’t possibly suffer from hypothyroid symptoms if they have “normal” thyroid function test results. I could have used many hypothyroid signs and symptoms to show that this belief is false. For example, he asserts that if a hypothyroid patient who is on “adequate”

T₄-replacement has chronic fatigue, hypothyroidism cannot possibly be the cause of the fatigue. Specifically, he wrote, “. . . symptoms, such as *fatigue*, and weight gain are not thyroid related if the testing is stable and normal.”^[5] (Italics mine.) But in a recent study by endocrinologists, patients could take part only if they had persistent hypothyroid symptoms despite using “adequate” T₄-replacement. Among the persisting symptoms of patients who took part was “*tiredness*,”^[26] a synonym for fatigue. (Italics mine.)

To keep this critique as short as possible, I selected only one sign of hypothyroidism, weight gain, and one symptom, depression, to prove that Dr. Guttler's belief is wrong. I selected weight gain and depression for two reasons: (1) many patients develop these only after becoming hypothyroid, and (2) many patients report that they continued to suffer from weight gain and depression while on “adequate” T₄-replacement, but then recovered from them upon switching to TSH-suppressive doses of thyroid hormone (usually T₄/T₃ or T₃). Many alternative thyroid doctors have anecdotally confirmed these patients' reports. But we don't have to depend on anecdotes to confirm them; we have studies that do.

WEIGHT GAIN

In Dr. Guttler's reply to someone who protested his attack on Mary Shomon, he revealed his belief about weight gain and thyroid function testing. He wrote, “The thyroid tests are abnormal way before you have ‘thyroid related symptoms’. Other similar symptoms, such as fatigue, and *weight gain* are not thyroid related if the testing is stable and normal.”^[5] (Italics mine.)

He expressed yet another belief about weight gain and thyroid hormone in replying to another protestor: He quoted the protestor as writing, “Hugh [Huge] weight gain on Synthroid [.]” And he retorted: “*There is no reason that any thyroid medication would cause weight gain, unless the dose was inadequate* [remember that Guttler defines “inadequate” as not enough to keep the TSH within the normal reference range]. Excessive Armour could be the reason you have lost the weight. [From Guttler's words, we must assume that the protestor lost weight after switching from Synthroid to Armour.] You need a TSH. If it is low you have your reason for abnormal weight loss due to induced hyperthyroidism.”^[5] (Italics mine.)

Dr. Guttler again expressed his belief about weight gain and T₄-replacement when he tried to convince a female patient with a hot thyroid gland nodule to undergo radioiodine therapy. “She claimed fear of radiation,” he wrote, “and even more important to weight gain without a thyroid gland. Even after reassurance about the safety of RAI [radioactive iodine] and *the weight neutral aspects of post radiation therapy of thyroid hormone replacement*, she refused.”^[9] (Italics mine.)

These quotations from Dr. Guttler make clear that he believes: (1) if a hypothyroid patient's thyroid “testing is stable and normal,”^[5] any weight gain can't be caused by too little thyroid hormone regulation; and (2) a patient will not gain weight on thyroid hormone replacement after she undergoes radioactive iodine treatment of her thyroid gland.

It's noteworthy that Dr. Guttler expressed these beliefs about weight gain in 2004. He implies that his beliefs are based on 50 years of science.^[3] Why then would he hold these two beliefs when a high-quality study by some of his own colleagues—published in 2000—shows exactly the opposite to be true.

I'm referring to a study coauthored by Drs. Geoffrey Beckett and Anthony Toft—a biochemist and an endocrinologist who promote T₄-replacement as tenaciously (albeit far more civilly) as Guttler does. Beckett and Toft commented on hyperthyroid patients made hypothyroid by treatment that destroys thyroid gland tissue. “Despite restoration of serum thyrotropin (TSH) concentrations to normal, many [hypothyroid] patients complain of weight gain.”^[11]

Beckett and Toft compared the outcome of the treatment of thyroid cancer patients with that of Graves' disease patients. Thyroid cancer patients used TSH-suppressive doses of T_4 to suppress further thyroid tumor growth. On the TSH-suppressive doses of T_4 , the now hypothyroid cancer patients didn't gain weight. Graves' disease patients used T_4 -replacement doses—doses that kept the TSH within the current reference range. They were matched with the cancer patients for age, sex, and severity of hyperthyroidism before antithyroid therapy. *The patients on T_4 -replacement after becoming hypothyroid gained a significantly greater amount of weight.*^[11]

Beckett and Toft wrote that “. . . one of the most commonly expressed anxieties of patients with hyperthyroidism attending a thyroid clinic is that any treatment that causes the development of hypothyroidism is associated with excessive weight gain. This is particularly the case for those offered treatment with ^{131}I [radioactive iodine], as thyroid failure is inevitable in the great majority of patients, usually within the first year.” They continued, “Although the standard medical response is that any weight gain after stabilization of T_4 replacement therapy is simply that which was lost during the period of hyperthyroidism, many patients remain unconvinced, and some may even choose not to be treated with ^{131}I .”^[11,p.1110]

This was the case with Dr. Guttler's patient—the one with a hot thyroid gland nodule I mentioned above. She apparently rejected his assurance of “*the weight neutral aspects of post radiation therapy of thyroid hormone replacement.*”^[9] (Italics mine.) Beckett and Toft's following comment suggests that Guttler's patient knew more than he: “*Our results have affirmed [patients'] fears, namely, that treatment of Graves' disease by surgery or ^{131}I , resulting in hypothyroidism, is associated with excessive weight gain if the thyroid failure is treated with T_4 in a dose that restores the serum TSH concentration to the reference range.*”^[11] (Italics mine.)

Beckett and Toft also wrote, “. . . our findings are supportive of growing evidence that the current policy for treatment of hypothyroidism with T_4 alone and in a dose that restores serum TSH concentrations to the reference range may be flawed, at least in some patients.”^[11]

The Beckett/Toft study is sufficient evidence that Dr. Guttler's belief is wrong: T_4 -replacement after antithyroid treatment is clearly *not* weight-neutral. For the record, though, other studies also show his belief to be wrong.

In one study, women who had undergone radioactive iodine or surgical treatment for hyperthyroidism were questioned. Eighty percent of the women were taking T_4 -replacement. The weight of women who complained of weight gain had increased an average of 15.6%. (For example, a woman whose weight began at 110 lbs. now weighed approximately 127.2 lbs.) Even those who didn't complain of weight gain had gained weight; the average increase was 6.7%. (In this group, if a woman began at 110 lbs., she now weighed approximately 117.4 lbs.) The prevalence of weight gain is highlighted by the title of the researchers' report: “Overweight—a common problem among women treated for hyperthyroidism.”^[17]

Another research team reported, “This data suggests that *all* patients treated for thyrotoxicosis will gain body weight irrespective of the treatment used . . .”^[20] (Italics mine.) And other researchers have confirmed weight gain after antithyroid therapy.^{[18][19]}

In the recent Walsh study,^[26] (which Dr. Guttler implies he's read^[7]) patients were included in the study if they had persistent hypothyroid symptoms despite using T_4 -replacement. They had to have been on a steady dose of T_4 -replacement for at least two months, and they had to have “normal” TSH levels. Among the symptoms of these dissatisfied patients was weight gain.

One must wonder why Dr. Guttler holds his false belief about weight gain. Most studies I cited above were published between 1990 and 2000. But as far back as 1984, thyroid researchers had concluded, “Effective treatment of hyperthyroidism is accompanied by weight gain.”^[19] That’s somewhat far back in time for Dr. Guttler—who claims to be “the real thyroid expert”^[5]—to plead that he’s just a little behind on his reading of the modern thyroid research literature.

DEPRESSION

Dr. Guttler has made his belief clear about depression and thyroid testing and treatment. He wrote, “They [Mary and her army of combination T₄ and T₃ users] are allows [he must have meant “always”] talking about hypothyroidism as the cause of depression. Also that T₄/T₃ combos are better at fighting depressive symptoms. Wrong!”^[7] He also wrote, “Sawka, et. al. from Canada, reported in *Journal of Clinical Endocrinology* (10) 4551-5 2003, that there was evidence that combo T₄, T₃ Did Not improve depression over T₄ alone.”^[7]

Guttler quoted someone who protested his attack on Mary Shomon: “Depression on Synthroid, relieved by Thyrolar. You are a kook[.]” Guttler replied, “Thyroid disease can cause worsening of depression, and the worsening will be corrected by normal amounts of *any* thyroid medication[.]”^[5] (Italics mine.)

It takes but little reading of the psychiatric research literature, however, to show that Guttler’s pronouncements about depression in the two paragraphs above are wrong. Studies show that *not* just “any thyroid medication”^[5] relieves all hypothyroid patients’ depression. The studies also show that hypothyroidism can cause depression despite patients being on T₄-replacement and having “normal” TSH levels.

Consider a report by three psychiatric researchers from the Department of Psychiatry, University of Toronto.^[33] They studied nine thyroid disease patients on T₄-replacement who were depressed. The purpose of the study was to see whether adding T₃ would improve the patients’ depression. The depression of seven of the nine patients (78%) decreased by at least 50% after they added T₃ to their T₄ dosage.^[33,p.16]

A stubborn defender of “adequate” T₄-replacement such as Dr. Guttler might argue that the patients in this study (depressed on T₄ alone) simply weren’t taking enough T₄. But this wasn’t true. As the researchers noted, the TSH levels of all nine patients showed they were taking what Guttler would consider an “adequate” dose of T₄: “All nine patients,” the researchers wrote, “had [TSH] *levels near or below the lower limit of normal* for our laboratory prior to the addition of T₃, *indicating at least adequate T₄ replacement therapy.*”^[33,p.17] (Italics mine.)

It’s noteworthy that eight of the nine patients in the study had thyroid disease *before* they got depressed. This suggests that thyroid disease caused their depression. It also suggests that “adequate” T₄-replacement failed to prevent them from developing hypothyroid-induced depression.^[33,p.16]

The results the Toronto psychiatric researchers reported are far from solitary in the research literature. Other psychiatric researchers also report that T₄-replacement often fails to completely relieve depression caused by hypothyroidism.^{[30][43]} This contradicts Dr. Guttler’s claims that depression or its worsening “will be corrected by normal amounts of *any* thyroid medication.”^[5] (Italics mine.) Like the Toronto researchers, others also report that T₄-replacement often fails to improve depression that clears up when the patient begins taking a small amount of T₃.^[33] And still others report that dosages of T₃ higher than replacement dosages—that is, enough to suppress the TSH—augment the depression-relieving effects of antidepressants.^{[30][31][32][33][34][35]}

In a large, community-based study by general practitioners published in 2002, researchers compared matched control patients to hypothyroid patients. All the hypothyroid patients were using T₄, and most had “normal” TSH levels. Despite their use of T₄-replacement, the hypothyroid patients had a significantly higher incidence of depression than did the controls. The researchers concluded: “This community-based study is the first evidence to indicate that patients on thyroxine replacement even with a normal TSH display *significant impairment in psychological well-being* compared to controls of similar age and sex.”^[21] (Italics mine.)

Researchers who are endocrinologists have also shown that Dr. Guttler’s belief about depression and “normal” thyroid function test results is false. To take part in the endocrinologists’ study, patients had to have a diagnosis of hypothyroidism.^[27] They also had to have been on T₄-replacement for at least six months, and had to have “normal” TSH levels. In addition, they had to have depression according to scores on the General Health Questionnaire on two separate occasions at least two weeks apart.

Moreover—and this is important—patients could not take part in the study if they’d had a diagnosed mood disorder *before* becoming hypothyroid. This latter criterion for being included in the study reasonably points to hypothyroidism as the cause of the patients’ depression. In other words, to be included in the study, patients had to be living examples of exactly what Dr. Guttler denies can happen: patients who become depressed after becoming hypothyroid and who remain depressed despite being on “adequate” T₄-replacement. The result of the study was that neither T₄-replacement nor T₄/T₃-replacement relieved the patients’ depression. Hence, that patients qualified to be in the study is evidence against Dr. Guttler’s belief, and the outcome of the study verifies that his belief is false.

FAILSAFE THYROID FUNCTION TESTS

According to Dr. Guttler, someone protesting his attack on Mary wrote, “Crappy Synthroid [.]” He replied, “Her symptoms of ‘horrible PMS, depression, acne, and awful periods are not due to thyroid deficiency, *if the accurate T₄ and TSH tests are normal.*”^[5] (Italics mine.) Here as always, Guttler obstinately stands by thyroid function test results as failsafe.

Implying that thyroid testing is unerring, Dr. Guttler criticized Drs. Richard and Karilee Shames. (Dr. Richard Shames is a physician, and Dr. Karilee Shames a holistic and psychiatric nurse. They are thyroid experts who often write articles for Mary Shomon’s website. They are also the authors of the popular book, *Thyroid Power*.^[10]) Dr. Guttler wrote of them: “This doctor and wife have clearly stated on their website that people can be hypothyroid with normal tests! That is grounds for not paying any further attention to them as experts in thyroid disease.”^[7] He went on, “Why should patients pay any further attention to any doctor who is selling 10 step programs, books, and advocating that, obese, fatigued, cold, and muscle aching people with 100% normal T₄, T₃, and TSH tests, are hypothyroid! *That is scientifically impossible!*”^[7] (Italics mine.)

Dr. Guttler is fervidly dogmatic that thyroid testing is *absolutely* flawless—if the test results are “normal,” then it’s categorically impossible that any symptom the patient has is a result of too little thyroid hormone regulation. However, so many studies show that thyroid testing is highly unreliable that only blind faith can account for Guttler’s ardent advocacy of the tests.

A study by Fraser,^[44] for example, showed that the TSH and free T₄ tests—which Guttler uses—are in fact *highly* fallible. Fraser studied patients on T₄-replacement. Of 108 patients who were free from hypothyroid symptoms—and *any signs of overstimulation*—53 (49%) had TSH levels below the lower end of the reference range. This was a TSH level that thyroid specialists such as Dr. Anthony Toft have falsely designated a “thyrotoxic” level.^[47,p.91]

The endocrinology specialty has intimidated most conventional doctors into accepting without question Toft's false designation. As a result, most doctors would have had Fraser's patients—who were free from hypothyroid symptoms but had low TSH levels—reduce their T₄ dosages. Of course, this would have raised the patients' TSH levels. And most likely, it would have caused them to begin suffering again from hypothyroid symptoms.

Most conventional doctors also accept without question dogmatic pronouncements, such as Guttler's, that patients cannot have hypothyroid symptoms when their TSH levels are “normal.” Because of this, conventional doctors would blame the new hypothyroid symptoms of Fraser's patients on mysterious new diseases, like “fibromyalgia” (see Addendum 1) and “chronic fatigue syndrome.”^{[23][24][25]}

Fraser also found that some patients who had hypothyroid symptoms also had low TSH levels. Most conventional doctors would falsely believe these patients, too, were overtreated with T₄. They would therefore lower the patients' dosages, intensifying the hypothyroid symptoms they were already suffering from.

The Fraser study also shows the fallibility of the free T₄ test. Among 18 patients who were still suffering from hypothyroid symptoms, 4 (22%) had free T₄ levels above the upper limit of the reference range. This gave a false signal that the patients were overtreated with T₄, when in fact they were undertreated. Again, most doctors would make these patients lower their dosages. This would most likely worsen the patients' symptoms.

In the recent community-based study in the UK, 48.6% of patients had persisting hypothyroid symptoms despite being on T₄-replacement and having “normal” TSH levels.^[21] Moreover, each of four replacement studies published in 2003 showed that hypothyroid patients on T₄-replacement still suffered from hypothyroid symptoms or abnormal scores on tests of health status.^{[26][27][28][29]}

In the UK community study, 35% of people considered not to have hypothyroidism had hypothyroid or hypothyroid-like symptoms. My Editor, Jackie Yellin, made a noteworthy conjecture about these people whom the researchers presumed not to have too little thyroid hormone regulation: Many hypothyroid patients on T₄-replacement with “normal” TSH levels continue to suffer from hypothyroid symptoms;^{[21][26][27][28][29]} similarly, it's quite possible that the “hypothyroid-like” symptoms of this 35% were caused by too little thyroid hormone regulation, despite their “normal” TSH levels.

In my forthcoming book, *Tyranny of the TSH*, I cite many other studies that show levels of the TSH, free T₄, and free T₃ to be highly variable. I've included some of the studies in Addendum 2 below. In summary, the studies show: (1) TSH levels don't significantly correlate day-to-day^[42] or week-to-week;^[38] (2) every 30-minutes, “a significant regular variation” occurs in men's levels of TSH, free T₄, and free T₃;^[39] (3) sleep loss raises the TSH level the next day;^[40] and (4) taking a dose of T₄ raises the T₄ level and lowers the TSH level for some 9 hours.^[41]

These studies and others prove a point that should horrify anyone with a humane concern for the welfare of patients: Many thyroid diagnoses and dosage decisions doctors make based on blood level testing are bound to vary, depending on timing. In other words, which thirty-minute period on which day and which week the patients' blood is drawn for testing can cause variation in test results, and thus variation and inconsistency in decisions that are based on those results.

As Dr. Guttler criticized, Drs. Richard and Karilee Shames believe that patients can be suffering from hypothyroid symptoms despite having “normal” thyroid test results. Mary Shomon has long held the same belief. This belief is entirely consistent with scientific studies such as those I've cited. Those

studies prove patently wrong an authoritative declaration of Guttler's: that the Shames' belief is "scientifically impossible!"^[7]

ONLY "REAL THYROID EXPERTS" SHOULD ADVISE THYROID PATIENTS

At the end of each of his newsletters, Dr. Guttler states, "You are the thyroid patients..... I am the thyroid doctor [.]" Elsewhere he makes clear that he isn't just "the thyroid doctor"; he's also "the real thyroid expert."^[5] So that we make no mistake about it, he wrote: "There are only several hundred true thyroid doctors in the country. I would check out American Thyroid Association at thyroid.org for *the real list of thyroid experts. I am on the real list.*"^[5] (Italics mine.)

In a posting to the newsgroup alt.support.thyroid on May 15, 2004, Dr. Guttler asked readers, "Why do you think there is no postings by experts" at the newsgroup? Considering himself one of the missing "experts," he wrote, "I stopped posting in 1998, when I felt the hostility from a small group of self proclaimed 'experts' without portfolio."^[48]

He advised readers of the newsgroup: "Any serious thyroid patient looking for advice, needs to look elsewhere [elsewhere], until thyroidologist, providers of thyroid care, are welcome [welcome] to post. Go to thyroid.org, and go to these excellent reviews of thyroid on the web. They will outline 'good sites for obtaining patient information.'"^[48]

Of course, hypothyroid patients who visit www.thyroid.org—as when they visit Dr. Guttler's website—always get the same canned, simplistic, "expert" advice: take T₄ and let your doctor adjust your dose by your TSH level. Several recent studies, however, show that many patients who take this "expert" advice will regret doing so.^{[26][27][28]} Patients who took part in the studies had hypothyroid symptoms despite using T₄-replacement. By including these patients in the studies, the endocrinologists who conducted the studies acknowledged that T₄-replacement was ineffective for the patients.

The outcome of the studies was that both T₄-replacement and T₄/T₃-replacement left the patients suffering from hypothyroid symptoms. Based on this negative outcome, each group of endocrinologists reached a curious conclusion: that T₄-replacement should remain the thyroid hormone therapy of choice. Several other researchers who published editorials on the studies reached the same odd conclusion.^{[36][37]}

Since the studies proved that many hypothyroid patients have hypothyroid symptoms despite "adequate" replacement therapies, the advice to keep T₄-replacement the treatment of choice suggests to me disregard for the suffering of these patients—disregard that is a flagrant violation of the Hippocratic oath. Some of the endocrinologists who conducted the studies^{[26][28]} or wrote editorials about them^{[36][37]} noted the recent large, community-based study completed in the UK.^[21] That study suggested that many patients on T₄-replacement have an increased incidence of hypothyroid-associated diseases that are potentially fatal. And, the patients regularly use more medications for these diseases. To note that study and then advise that T₄-replacement remain the treatment of choice also suggests a lack of concern that many patients restricted to this treatment may suffer from and even die from hypothyroid-associated diseases.

T₄-Replacement clearly can sustain hypothyroid patients' symptoms. It can increase the incidence of other diseases that may prove fatal, and it can increase the patients' use of drugs to control the symptoms of hypothyroidism and the other diseases.^[22] These findings are grounds for two requirements being imposed on doctors: (1) having patients read, understand, and sign an informed consent document before the doctors can prescribe T₄-replacement for the patients, and (2) providing an alternate thyroid hormone therapy if the patients decline to use T₄-replacement because of its potential for ineffectiveness and harm.

Currently, of course, most conventional doctors simply coerce patients to use T₄-replacement, and if asked, the doctors refuse to prescribe alternative thyroid hormone therapy. This is especially true of members of the endocrinology specialty. It's probably true of Dr. Guttler, too, judging from his dogged advocacy of T₄-replacement and his damning of T₄/T₃ and T₃ therapies.

Yet, these are the “thyroid experts” whom Dr. Guttler urges “any serious thyroid patient . . .”^[48] to seek out for advice. Clearly, for many patients, T₄-replacement is neither effective nor safe. That being the well-documented case, it seems to me that hypothyroid patients who value their health and longevity will pass on Dr. Guttler’s “thyroid experts.” In lieu of them, the patients will seek out other doctors who’ll let them use alternate thyroid hormone therapies that are safe and effective for them.

In referring to Dr. Guttler’s attack on her, Mary Shomon wrote, “It . . . makes me even more committed to being an advocate for the many thyroid patients who struggle every day to cope with thyroid disease, despite having doctors who are not knowledgeable, compassionate, or focused on helping us truly live and feel well.”^[1] I laud Mary for her commitment to helping thyroid patients forsaken by the false beliefs of doctors like Guttler. My Editor, Jackie Yellin, observed, “Doctors like Guttler are the *raison d’être* of patient advocates like Mary.” Indeed, without the doctors’ false and potentially harmful beliefs, patients would have no need for advocates to rescue them. But as this critique of Dr. Guttler’s beliefs shows, thyroid patients do indeed need patient advocates. They need advocates to inform them of the risks inherent in the advice of Dr. Guttler’s “real thyroid experts.” Because of this, it’s a boon to them that Guttler’s attacks on Mary have made her more committed than ever. And the controversial publicity Guttler has provided will fortunately bring more patients to her website.

ONLY “REAL THYROID EXPERTS” ARE QUALIFIED TO SUMMARIZE RESEARCH REPORTS

Dr. Guttler criticized Mary Shomon as not being qualified to educate thyroid patients. He wrote, “Her statement that she summarizes research papers for her readers is a joke. She has no medical background to competently review and summarize any journal article for the thyroid patients.”^[5]

He then commented on her advising patients to take copies of published papers to their doctors: “She is also wrong about women with little papers brought to doctors during an office visit. If the papers come from sources that are medically sound, there is no problem. When they come from her [Mary’s] paper mill, *the real thyroid expert has to groan, and spend time explaining why the information is usually wrong.*”^[5] (Italics mine.) The two sections below, however, cast serious doubt, at least in my mind, on Dr. Guttler’s ability to accurately “review and summarize”^[5] information from medical publications.

False Summary of Replacement Therapy Research Reports

Dr. Guttler demonstrates for us how “the real thyroid expert”^[5] reviews and summarizes research papers. He shows us in his comments on the recent studies comparing the effectiveness of T₄-replacement with T₄/T₃-replacement. Following the annual American Thyroid Association meeting in Los Angeles in mid-October 2002, he wrote: “The big hot button issue is about T₄, and T₃ combination therapy for hypothyroidism. A group from U. of Toronto presented data that there was no Advantage to combo therapy for hypothyroid patients.”^[8]

Seven months later, he commented on another study comparing T₄-replacement with T₄/T₃-replacement: “More recent evidence against T₄/T₃ combination therapy [. . .] No matter what Mary and her army of combination T₄ and T₃ users say about how great they feel, there is more evidence that there is no

scientific value to these therapies. Studies published in *Journal of Clinical Endocrinology*, by Walsh et al. Vol.88 (10) 443-50 2003, confirm that no improvement in well being, cognitive function, or quality of life compared to T₄ alone.”^[7]

The exact nature of the studies appears to have escaped Dr. Guttler. The studies compared the effectiveness of T₄-replacement to T₄/T₃-replacement—T₄ or combined T₄/T₃ in doses that kept subjects' TSH levels within the reference range. For an accurate and meaningful interpretation of the studies, it's crucial to know that the researchers tested *only* replacement doses—not any and all approaches to combination thyroid hormone therapy. They tested neither Armour nor Thyrolar, nor preparations that contain the ratio of T₄ to T₃ in these two products. Nor did they test Cytomel/Cynomel. And because the researchers didn't study these medications, the results of the studies are *completely* irrelevant to the question of how effective these T₃-containing thyroid preparations are.

In his comments on the studies, Dr. Guttler committed the same logical error that the endocrinologists who conducted the studies did: He twisted the valid conclusion of the studies—that neither T₄-replacement nor T₄/T₃-replacement relieved patients' symptoms—into the broader, invalid conclusion that *no* approach to T₄/T₃ therapy is more effective than T₄ alone. The researchers' and Dr. Guttler's careless reformulating of the valid conclusion into the invalid one is a disservice to both doctors and patients; it will leave them with the false belief that *no* type of T₄/T₃ therapy is more effective than T₄ alone.

Dr. Guttler may have read only the invalid conclusion of the endocrinology researchers and accepted it without question as true. If he did, then he's an example of what I've expressed concern about—doctors hearing only the invalid conclusion and incorporating it into their frames of reference as gospel. On the other hand, Dr. Guttler may have read the full published reports of the studies. If he did, he clearly committed the act he falsely accused Mary of—inaccurately summarizing the results of research reports.^[5]

False and Self-Contradictory Summary of Evidence on Desiccated Thyroid

Most of Dr. Guttler's “real thyroid experts” give two reasons for objecting to patients using desiccated thyroid: first, that its potency isn't as stable as synthetic T₄, and second, that the T₃ in the product causes a peak T₃ blood level that produces troubling palpitations in patients. As I've written elsewhere, these objections are specious.^[22] Dr. Guttler's objections to patients using desiccated thyroid, however, are *far* more than specious; in fact, they are simply ridiculous.

Consider his judgment of Armour in his May 15, 2004 newsletter: “Thyroid extract [desiccated thyroid] was the standard of therapy until it was noted to cause many symptoms secondary to excess thyroid hormones T₄, and T₃ in the animal extract.”^[53] This statement of Guttler's implies that any use of desiccated thyroid results in overstimulation. This, of course, is patently false. When patients use desiccated thyroid properly, it's no more overstimulating than any other thyroid hormone preparation, including synthetic T₄. If desiccated thyroid were invariably overstimulating, its widespread use through most of the twentieth century would have been disastrous for patients. It wasn't, as the historical record clearly shows.

Dr. Guttler wrote that after it was learned that desiccated thyroid, or “extract,” caused overstimulation (a false statement of fact), “There followed a rapid decline in its use, replaced by T₄. Extract is now the darling of the alternative medicine set. It still has all the old problems, and *none of the benefits* [of T₄].”^[53] (Italics mine.)

In his assertion that desiccated thyroid has “none of the benefits”^[53] of T₄, Dr. Guttler flagrantly contradicts himself. He made this assertion only a few paragraphs after he wrote, “Marnus-Levey [actually the researcher’s name was “Magnus-Levy”^{[46][55]}] . . . fed dried animal thyroid glands, the precursor of the alternative doctor’s beloved Armour, to normal men.” He then wrote that in response to the dried thyroid substance, “there was marked rise in metabolism.” Then, referring to “the powerful substance causing this increased metabolism,” he stated that it “had beneficial effects on cretins,” that “Murray cured myxedema” with it, and that it was “*proven to treat thyroid gland failure.*” (Italics mine.) He then wrote, “*Effective therapy for hypothyroidism was known by the end of the 19th century.*”^[53] (Italics mine.)

This “effective therapy for hypothyroidism” of course, was desiccated thyroid. It had to be, since, as I wrote in *The Metabolic Treatment of Fibromyalgia*,^[25] researchers didn’t isolate T₄ until 1915,^[52] didn’t synthesize it until 1919,^[51] and didn’t determine its chemical structure until 1927.^{[49][50]} So, at the same time that Guttler cites the benefits of desiccated thyroid, he claims it provides “none of the benefits” of T₄.^[53]

As well as Dr. Guttler contradicting himself, other thyroid specialists also contradict his statement that desiccated thyroid has “*none of the benefits*” of synthetic T₄.^[53] (Italics mine.) In a major textbook, *The Pharmacological Basis of Therapeutics*, thyroid specialist R.C. Haynes cited research that contradicts Guttler’s opinion. Haynes wrote that researchers have tested the effects of different thyroid hormone preparations after injecting them beneath patients’ skin. The tests showed that different preparations have different quantitative effects; for example, T₃ is more potent and faster acting than T₄. The tests also showed, however, that there’s no appreciable difference in the qualitative (perceptual) response of a hypothyroid patient to proportional amounts of T₃, T₄, or desiccated thyroid. Specifically, he wrote, “*Equivalent clinical responses are obtained from the daily administration of approximately*” 65 mg of desiccated thyroid, 65 mgs of thyroglobulin, 100 mcg of T₄, or 25 mcg of T₃.^[45,p.1372] (Italics mine.)

Any mindful reader of Dr. Guttler’s statements about desiccated thyroid can see that his judgment is flawed; through clear-cut self-contradiction, he proves this himself. And, of course, his summary of the T₄- and T₄/T₃-replacement studies is grossly inaccurate. These two examples show that his ability to accurately “review and summarize”^[5] medical reports is egregiously poor—at least as poor as his written use of the English language. Consequently, I’m not reassured by his comment, “the real thyroid expert has to groan, and spend time explaining why the information is usually wrong.”^[5] Instead, I breathe a sigh of relief that Mary Shomon will continue her reviews and summaries of research papers for patients who need scientifically accurate information.

DR. GUTTLER’S DILEMMA

In this critique, I’ve presented scientific evidence to show that Dr. Guttler’s beliefs about hypothyroidism are false, and that there is risk in taking the advice of his “real thyroid experts.” Specifically, the evidence proves:

- most patients on T₄-replacement after antithyroid therapy gain weight;
- many patients have chronic fatigue or depression after becoming hypothyroid despite using T₄-replacement;
- TSH and free T₄ levels markedly vary by hour, day, and week, possibly leading to different conclusions about a patient’s thyroid status, depending on when her blood is drawn;
- TSH and free T₄ levels don’t correspond to some patients’ true clinical status, possibly resulting in treatment decisions by doctors that disastrously impact the patients;
- Dr. Guttler’s belief that only his “real thyroid experts” should advise hypothyroid patients is

potentially harmful to the patients: these “experts” restrict patients to T₄-replacement, which often sustains hypothyroid symptoms and puts patients at risk for potentially fatal diseases and increased drug use;

- Dr. Guttler’s summaries of studies are so grossly inaccurate that patients will be prudent to look to Mary Shomon for accurate study summaries.

In proving these propositions, the scientific evidence also proves two others: First, it’s not Mary Shomon’s beliefs that are false, as hers are consistent with the scientific evidence. Instead, it’s Dr. Guttler’s beliefs that are false. His beliefs about hypothyroidism are so uninformed by pertinent studies that he could well have slept through the last twenty years of relevant thyroid research. Second, it’s not Mary’s beliefs that risk harming patients; it’s Dr. Guttler’s beliefs that put patients at risk.

These two proven points impose a dilemma on Dr. Guttler: On the one hand, he can maintain his beliefs as they are, despite the scientific evidence refuting them. In that case, we must classify his beliefs as unscientific. On the other hand, he can reform his beliefs to correspond with the scientific evidence. If he does, however, his reformed beliefs will concur with those of Mary Shomon.

Most likely, these two options will be equally objectionable to Dr. Guttler. After all, he’s dogmatically propounded his beliefs as irrevocable, scientifically-established facts. Recanting now in public may prove embarrassing. And he has venomously criticized Mary Shomon for holding beliefs contrary to his own, implying that her doing so proved her incompetent. Conceding publicly now that she was right and he was wrong may be distasteful to him, in that, according to his own line of thinking, it will show that it was not she who was incompetent.

Dr. Guttler may find it unpalatable to reform his beliefs to concur—as Mary’s do—with the scientific evidence. But he surely stands to gain by doing so. By reforming, he’ll show that he’s committed to scientific truth. For that, I for one would admire him. But more importantly, by reforming, he’ll show that he’s committed to move in any direction that science tells us is favorable to the health and well-being of hypothyroid patients. For that, we could justly see him as an honorable man.

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Addendum 1: Fibromyalgia

We can't doubt what Dr. Guttler believes about the relationship of fibromyalgia symptoms to thyroid disease; he's hurled judgment down to us in the style of a sovereign's edict: About fibromyalgia, he wrote, "*There is no relationship between that entity and Hypothyroidism. End of story.*"^[7] (Italics mine.)

Dr. Guttler issued this authoritarian decree without even attempting to refute a substantial body of research—one that shows the main underlying causes of fibromyalgia symptoms to be hypothyroidism and thyroid hormone resistance. I summarize below what's contained in that body of research.

Many researchers have noted that fibromyalgia symptoms are virtually identical to those of hypothyroidism.^{[56][57][58][59][60][61][62][63][64][65][66][67][68]} Indeed, as my collaborator Jackie Yellin, has shown, the most well-documented features of fibromyalgia are exactly the same as features of hypothyroidism (see Table 1).

Studies by several research teams indicate that 90% of fibromyalgia patients have underlying thyroid diseases.^{[69][70]} Studies by researchers in the U.S., France, Germany, and Italy show that these thyroid diseases include primary and central hypothyroidism and cellular resistance to thyroid hormone.^{[57][71][73][74][75][76][78]} It's important to note, however, that most patients' fibromyalgia symptoms caused by thyroid disease are compounded by other metabolism-impeding factors. The most common factors are poor diet, nutritional deficiencies, poor physical fitness, and metabolism-impairing drugs.^[25]

When fibromyalgia patients receive effective treatment for hypothyroidism or thyroid hormone resistance, most are fully and lastingly freed from their fibromyalgia symptoms. Several open but systematic trials and several blinded studies have shown that metabolic treatment including thyroid hormone completely relieves most patients' symptoms.^{[16][72][77][79][80][81][82][83]} In another double-blind crossover study, researchers reported a positive therapeutic effect on fibromyalgia from transdermal T₃.^[14] In a randomized double-blind, placebo-controlled study, clinicians used multiple therapies.^[13] In that study, as Peter Warmingham noted in an article titled "Fibromyalgia has been solved,"^[12] 90% of the fibromyalgia patients used thyroid hormone and 90% improved. These are the only studies in which patients have largely or fully recovered from fibromyalgia symptoms.

Table 1. Some symptoms and objectively verified abnormalities in both hypothyroidism and fibromyalgia.*

Reduced slow-wave sleep	Increased alpha ₂ -adrenergic receptors on platelets
Irritable bowel syndrome	Dysmenorrhea
Reduced HPA axis function	Reduced serotonin secretion (platelets)
Urinary frequency	Joint hypermobility
Increased pain perception	Reduced growth hormone & somatomedin C
Increased substance P	Stiffness & swelling
Depression	Sicca symptoms
Cognitive dysfunction	Orthostatic hypotension
Slow muscle relaxation time	Cold intolerance
Exercise intolerance	Paresthesia
Impaired glycolysis	Increased mast cells
Increased hyaluronic acid	Anxiety
Reduced brain blood flow	Fatigue
Chronic widespread pain	

*From Jackie Yellin's seminar, Hampshire Hills Sports and Fitness Club, Milford, New Hampshire, Sept. 20, 2001.

If Dr. Guttler doubts the relationship between fibromyalgia symptoms and too little thyroid hormone regulation, he should read three studies by our research team at the Fibromyalgia Research Foundation.^{[81][82][83]} These were double-blind, placebo-controlled, crossover studies. In them, we tested the effects of T₃ and placebos on fibromyalgia symptoms. We repeatedly turned the patients' symptoms

off and on by switching them from T₃ to placebos, much like turning the flow of water off and on by switching a faucet handle one way and then the other.

We conducted another study that showed that thyroid hormone's effectiveness at relieving fibromyalgia symptoms isn't a placebo effect.^[15] This study was the first to show long-term effectiveness of a fibromyalgia treatment. The study was a 1-to-5-year follow-up comparing untreated patients to patients treated with metabolic therapy including thyroid hormone. We matched 20 fibromyalgia patients who hadn't undergone treatment, with 20 fibromyalgia patients who had. We matched them by sex, thyroid status, and the time since their first evaluation.

We first evaluated all the patients 1-to-5 years before the follow-up study began. We compared those baseline measures with the follow-up measures for each group. Treated patients had improved on all measures of fibromyalgia, and they had decreased their drug use. Untreated patients didn't improve at all, and they were using more drugs. The fact that treated fibromyalgia patients maintained their improvement 1-to-5 years compared to matched untreated patients compels us to formulate a conclusion: Relieving inadequate thyroid hormone regulation produces long-term recovery from fibromyalgia symptoms. The recovery is not due to a placebo effect.

In addition to these studies, a huge body of evidence points to too little thyroid hormone regulation as the main underlying cause of fibromyalgia. For example, compared to other people, the fibromyalgia patient has an extremely high level of substance P in her spinal cord.^[84] Substance P is a chemical that amplifies perception of pain.^{[85][86][87][88]} It amplifies pain perception so much that the patient perceives as painful something that ordinarily is not, such as the pressure of a mattress on her back and buttocks.

Thyroid hormone inhibits the production of substance P in the spinal cord.^{[89][90]} When researchers make animals hypothyroid, substance P production is no longer inhibited; the level then rises steeply in the animals' spinal cords. The high level magnifies the animals' perception of pain, and like fibromyalgia patients, the animals perceive as painful something that ordinarily is not,^{[85][86]} such as a light squeeze of a rat's tail. In humans, the increased pain perception is experienced as chronic widespread aches and pains.^[91] Such aches and pains, of course, are the main symptoms fibromyalgia.

In our three blinded studies I mention above,^{[81][82][83]} fibromyalgia patients' pain dramatically decreased or stopped altogether when they took T₃. In placebo phases, their pain returned. We assume that the thyroid hormone reduced or stopped our patients' pain by lowering their substance P levels.

Anyone who understands the molecular biology of thyroid hormone regulation knows that the hormone exerts its metabolic effects largely in two ways: by (1) decreasing the density of alpha₂-adrenergic receptors on cell membranes, and (2) increasing the density of beta-adrenergic receptors. These two changes accelerate metabolism.

Studies indicate that fibromyalgia patients have the opposite ratio of receptors: (1) an increased density of alpha₂-adrenergic receptors,^[6] and probably (2) a decreased density of beta-adrenergic receptors.^[4] These changes slow the patients' metabolism. When researchers treated fibromyalgia patients with a drug (salbutamol) that stimulates beta-adrenergic receptors, their symptoms markedly improved.^[4] This evidence points directly to too little thyroid hormone regulation as the main underlying mechanism of fibromyalgia.

I could continue citing such evidence for hundreds of pages. I've already done that, however, in a 1260-page book titled *The Metabolic Treatment of Fibromyalgia*. I cited thousands of studies in the book that point directly to inadequate thyroid hormone regulation as the main underlying cause of fibromyalgia

symptoms.^[25]

Many clinicians and researchers have hypothesized causes of fibromyalgia that differ from the inadequate thyroid hormone regulation hypothesis. With rare exception, these theorists have not, within their hypotheses, accounted for or refuted the massive body of evidence supporting the inadequate thyroid hormone regulation hypothesis; they've simply ignored that evidence. Consequently, they've violated the first rule of scholarship in formulating their hypotheses. That rule is to know and account for all credible knowledge within the field of study. By violating this rule, they've sabotaged their own efforts; their views of fibromyalgia are largely irrelevant to the field and have little if any credibility.

Foremost among these irrelevant and incredible views of fibromyalgia is Dr. Guttler's, expressed as a dictator's decree—"*There is no relationship between that entity [fibromyalgia] and Hypothyroidism. End of story.*"^[7] (Italics mine.)

Addendum 2: Blind Faith That Laboratory Thyroid Tests Are Infallible

I've extensively studied the scientific literature on thyroid function testing and consulted with many laboratory medicine specialists who are the ultimate experts on the tests. I've also written comprehensively on the merits and demerits of the tests.^[25] And I've undoubtedly ordered and interpreted them for as many patients as Dr. Guttler has. Based on that cumulative experience, I'm convinced that reliably accurate clinical decisions cannot be made solely on the basis of thyroid function test results. I consider clinical decisions of doctors who rely exclusively on the tests to be dubious at best and harmful to many patients at worst.

Dr. Guttler argues that his beliefs about the T₄ and TSH tests are scientifically-based. For example, he wrote to Mary Shomon, "Your motto should be We're patients.... not lab values, we want our doctors to ignore 50 years of research, and treat us like they did in the 1940's, when therapy was based on symptoms, not facts."^[3] Although he suggests that science is the basis of his beliefs, his dogmatic assertions implying that thyroid function tests are infallible are more like evangelism.

In general, the endocrinology specialty shares Dr. Guttler's dogmatic belief in the infallibility of thyroid function tests. Because of this, I'm fond of collecting published studies in which researchers have documented significant, normal variations in the blood levels of TSH, T₄, and T₃. In my forthcoming book, *Tyranny of the TSH*, I include the most representative of these studies. Here, however, I'll mention only a few to illustrate, contrary to Dr. Guttler's pronouncements, what science *really* shows.

In 1997, researchers reported that when they measured patients' TSH levels week-to-week, the levels did not significantly correlate. The correlation is reported as an "r" value. 1.00 is a perfect correlation, and 0.00 is no correlation whatever. The r value for week-to-week TSH levels was a mere 0.17—just a teensy bit (17%) above no correlation at all. The r value was not statistically significant. This means that the very weak positive correlation week-to-week could have been due merely to chance similarities in the TSH levels, and there may actually have been no correlation at all.^[38] Another way of looking at this is that patients' TSH levels significantly differed week-to-week.

A Japanese researcher studied variations in TSH levels in normal and depressed men and women. He reported, "A large intra-individual variation [variations in the same person] of serum TSH levels determined on different days was found equally in both men and women." He also reported, "The present study demonstrated a large variation of TSH levels in various conditions, even in the same individuals . . ."

. . ."^[42]

Still other researchers, Weete and colleagues, reported significant variations in the levels of the free T₄ and TSH in normal men—levels Dr. Guttler assumes to be impeccably consistent. Variations in the levels of the hormones, however, are of great enough magnitude to lead to misdiagnoses of patients' thyroid status. The researchers reported that from day to night, men's TSH levels increased an average of 140%. Their free T₄ levels increased by 7%. The researchers also took blood samples every five minutes in a six-to-seven hour period starting between 7 pm and 10 pm. On average, the free T₄ level varied by 11%, the free T₃ by 15%, and the TSH by 13%. The researchers reported that “a significant regular variation” in the levels of the hormones occurred every 30 minutes.^[39]

Aside from natural variations in TSH levels, the levels may vary according to other factors, such as lost sleep or absorption of thyroid hormone into the blood. When normal women were partially deprived of sleep, their TSH concentrations increased significantly. The levels remained high through the following day.^[40] Sleep deprivation is so common nowadays that it's likely that many patients' TSH levels are tested the day following a night of insufficient sleep. This study suggests that their TSH levels may be higher than they would be following a night of enough sleep. This variation in TSH levels could easily lead doctors to misdiagnoses^[25] if they aren't cognizant of the effect of too little sleep and inquire about it when they test a patient's TSH level.

After a patient takes a dose of T₄, her free T₄ level remains elevated for some 9 hours. In patients taking T₄-replacement, the T₄ level was increased an average of 13%. The TSH level in these patients was decreased by 19%.^[41] Obviously, if a patient's blood is drawn during this 9-hour time, the decision her doctor makes about a dosage adjustment may be quite different from the one he would make if her blood is drawn after the 9-hour period.

Based on this finding, the following scenario is highly likely to occur in the clinic of an endocrinologist. Like a quasi-accountant, this endocrinologist bases his decisions *strictly* by the numbers—by the patient's lab test levels.^[25]

A man who works out five days a week at a gym comes to the endocrinologist's clinic complaining of depression, fatigue, and weight gain. The doctor measures the man's TSH and free T₄ levels. His TSH level is 3.05—a hair above the new upper limit according to the American Association of Clinical Endocrinologists. His free T₄ is 59.0, which is the lower limit. Based on these levels, the technocratic doctor gives the man a diagnosis of hypothyroidism and attributes his symptoms to a thyroid hormone deficiency. The doctor prescribes a small amount of T₄—just enough to lower the man's TSH level below 3.03 and raise his free T₄ slightly.

Contrast the above outcome with the following likely result had the man come in thirty minutes later. The endocrinologist measures the man's TSH and free T₄ levels. As the Weete study found,^[39] the TSH may vary 13% every half-hour. In line with this, thirty minutes later the man's TSH level is 13% less than in the first scenario; it is down from 3.05 to 2.65.

The endocrinologist also measures the man's free T₄ level. Recall that Weete found that men's free T₄ levels varied 11% in thirty-minutes.^[39] The man's level now—thirty minutes later than in the first scenario—is up by 11%; it's no longer 59.0, but 64.9. Based on these TSH and free T₄ levels, the technocratic doctor tells the man that he's *definitely not* hypothyroid and that his symptoms must be caused by some other disorder. For the man's depression, the endocrinologist recommends a psychiatrist; for his fatigue, more sleep; and for his weight gain, more exercise.

The studies I've cited in this section should make my point clear: Dr. Guttler's trust in the perfect consistency of free T₄ and TSH levels is misplaced. Over the years, I've talked with scores of doctors

whom Dr. Guttler would consider “real thyroid doctors.” I’ve done so with a keen interest in their approach to diagnosis and treatment of hypothyroid patients. From those conversations, I’ve come to believe that in their clinical decisions, most of these doctors do *not* allow for factors such as short-time variations in hormone blood levels, too little sleep, or ingestion of thyroid hormone. Because their clinical decisions depend *solely* on the levels of the two hormones without consideration of other factors, I’ve never trusted their clinical decisions. Nor, for the same reason, could I trust Dr. Guttler’s.