



Greetings!

Based on information provided to me, your patient has a complicated history of issues affecting his or her health and well being. I am a neuropsychologist, traumatologist, and addiction specialist. I am consulting with your patient to help investigate the etiology of the current challenges and develop a viable treatment plan that would be designed to shift his or her symptomatology.

In my experience, thyroid disorders or other adrenal conditions are common to develop following serious concussion, particularly repeated concussion, and/or other injuries/illnesses. Fortunately, if this is the case, research suggests that with proper medication, the cognitive/emotional symptomatology could improve in as little as six months. As you know there are many medical conditions that adversely affect cognition, mood, and level of functioning.

It is consequently essential that we rule out any and all medical conditions that could be complicating your patient's level of functioning.

Patients of mine in the past have profited from a full metabolic blood workup including all thyroid markers (see attached for description), as well as measures of vitamin/mineral levels including calcium, vitamin D, the B's including folic acid, anemia, and hormone panel. Tests to rule out gluten intolerance or celiac disease have also been of assistance. A toxicology screen would also be helpful. A consultation with a specialist in integrative medicine to review the results would be helpful, particularly to review the relative values of the thyroid results, i.e. TSH and/or T4 may be fine, but other measures in comparison may not be within normal limits.

Most physicians would find such a comprehensive metabolic panel to be "overkill." However, in my 35 years of experience, not resolving underlying medical issues is one of the largest impediments to successful intervention. These complicated patients often have multiple sources of issues contributing to their conditions. Working toward the resolution of medical issues allows me to target the other sources of their symptomatology more effectively and usually makes the job of medical management easier.

For some patients, a MRI of the brain and spinal cord, and depending on the results, a CSF evaluation may also be indicated, if not performed within the last year.

I have advised your patient that I would like to wait to proceed with my evaluation until we could have the results of the metabolic panel.

With a signed release, I would be happy to consult with you further on our mutual patient. Thank you so much for your kind consideration of this request.

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### The full list of adrenal dysfunction symptoms

On the third page of this chapter, I listed tell-tale signs of having an adrenal problem. There are even more to consider. The following is a more complete list of actual low-cortisol symptoms reported by patients who had confirmed adrenal issues, whether primary or secondary, and many with mixed levels of high and low. And some of these symptoms, especially the shaky sensation, can be the result of the over-production of adrenaline by your adrenals in the presence of low cortisol:

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| <ul style="list-style-type: none"> <li>• continuing hypo- symptoms with a high free T3</li> <li>• shaky hands; internal feeling of shakiness</li> <li>• diarrhea</li> <li>• heart palpitations</li> <li>• feeling of doom or panic</li> <li>• irrational fear</li> <li>• general or localized weakness</li> <li>• inability to handle stress</li> <li>• inability to handle interactions with others</li> <li>• inability to focus</li> <li>• rage or sudden angry outbursts</li> <li>• emotionally hypersensitive</li> <li>• overreactive</li> <li>• highly defensive</li> <li>• feeling paranoid</li> <li>• exacerbated reactions to daily stress</li> <li>• no patience</li> <li>• easily irritated</li> <li>• mild to severe hypoglycemic episodes</li> <li>• taking days to recover from even minor stress</li> <li>• taking days to recover from a dental visit</li> <li>• flu-like symptoms</li> <li>• headaches (common with many)</li> <li>• all-over body ache</li> <li>• inflammation that doesn't go away</li> <li>• super-sensitive skin (hate to be touched)</li> <li>• extreme fatigue</li> <li>• scalp ache</li> </ul> | <ul style="list-style-type: none"> <li>• jittery or hyper feeling</li> <li>• clumsy (drop things, bump into things)</li> <li>• confusion</li> <li>• sudden extreme hunger</li> <li>• poor absorption of nutrients</li> <li>• hypersensitive to supplements</li> <li>• low stomach acid</li> <li>• low back pain</li> <li>• feeling dull</li> <li>• cloud-filled head</li> <li>• jumpiness or exaggerated startle reflex</li> <li>• muscle weakness</li> <li>• "air hunger"</li> <li>• dizziness</li> <li>• light-headedness</li> <li>• motion sickness</li> <li>• coffee putting patient to sleep</li> <li>• coffee needed in the morning to wake up</li> <li>• vomiting from running up the slightest incline</li> <li>• feeling nauseous from movement</li> <li>• almost passing out every time patient gets up</li> <li>• dark circles under eyes</li> <li>• waking up in the middle of the night</li> <li>• frequent urination</li> <li>• IBS symptoms</li> <li>• worsening allergies</li> <li>• feeling better after 6 pm</li> <li>• pain in the adrenal area</li> <li>• high estrogen levels</li> </ul> |
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# About.com Thyroid Disease

By Mary Shomon, About.com · Updated December 15, 2008

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## Key Thyroid Function Tests Laboratory Values and Interpretation

(Note: These are general values/averages. Lab values can vary somewhat from lab to lab. Always check to find out what the specific normal range is for the test value at YOUR lab.)

Test / Name	Normal Range	Interpretation
"TSH" Test -- Thyroid Stimulating Hormone / Serum thyrotropin	0.4 to 6  0.3 to 3.0 (as of 2003)	Under .4 can indicate possible hyperthyroidism. Over 6 is considered indicative of hypothyroidism. <b>Note:</b> the American Association of Clinical Endocrinologists has revised these guidelines as of early 2003, narrowing the range to .3 to 3.0. Many labs and practitioners are not, however, aware of these revised guidelines. (See <a href="#">Endos Say Normal TSH Range Now .3 to 3: Millions More at Thyroid Risk<sup>1</sup></a> )
Total T4 / Serum thyroxine	4.5 to 12.5	Less than 4.5 can be indicative of an underfunctioning thyroid when TSH is also elevated. Over 12.5 can indicate hyperthyroidism. Low T4 with low TSH can sometimes indicate a pituitary problem.
Free T4 / Free Thyroxine - FT4	0.7 to 2.0	Less than 0.7 is considered indicative of possible hypothyroidism.
T3 / Serum triiodothyronine	80 to 220	Less than 80 can indicate hypothyroidism.

Calcium  
PTH parathyroid hormone  
  
Free T3  
Reverse T3

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So, we were modern pioneers, inspired by the path of hypothyroid patients long before us who were treated successfully on desiccated thyroid. The following represents the hard-earned knowledge of patients who switched to desiccated thyroid and regained our health, well-being and bliss. We now give it to you.

## 1. Some lab work we need; others we don't.

Laboratory work is said to make the physician more competent in the diagnosis and treatment of his patients. And patients welcome the extra information, since the results can find answers to mysterious symptoms.

Yet the most unfortunate and egregious mistake doctors have been making for decades is to regard those ink spots on a piece of paper as being far more important than obvious symptoms, aka clinical presentation. *Symptoms*, not man-made lab work, should be the throne of diagnosis and the principal guide in your diagnosis and dosing. For thyroid patients, lab test choices and results with their erroneous normal ranges have been the biggest culprit in keeping patients undiagnosed, as well as under-treated.

For years, the two lab tests that doctors have worshipped as if they came from God Almighty are the TSH (Thyroid Stimulating Hormone) and the total T<sub>4</sub>, which is also written just as T<sub>4</sub>. At the very worst, doctors moved to simply testing the TSH alone. Or they used the outdated and fairly useless "Thyroid Panel", which tests the total T<sub>4</sub>, the TSH, occasionally the free T<sub>4</sub> or total T<sub>3</sub>, and other lab results such as the Free Thyroxine Index (FTI) or the T<sub>3</sub> Resin Uptake (TRU) or T<sub>7</sub> (see Addendum C for definitions). Of course, all the latter are good if you want the lab facility to make plenty of money and less of it in your pocket.

We, as patients, have learned that there are certain lab tests, contrary to what most doctors had been requesting, which can help us in our assessment of thyroid disease and in our treatment with thyroid medications. They include:

- TSH (a pituitary hormone used to ascertain if there is a pituitary problem, not to diagnose or dose by)
- Free T<sub>4</sub>
- Free T<sub>3</sub>

Reverse T<sub>3</sub>

- Two thyroid antibodies tests: TPQab (Thyroid Peroxidase) and TgAb (Antithyroglobulin)

The free in front of the T<sub>4</sub> and T<sub>3</sub> represents what is available and unbound in your blood serum by proteins, i.e. what is usable. Without that free, the labs are only measuring the total hormone, which tells you nothing about what is usable.

For diagnosis, patients have discovered that a free T<sub>3</sub> either mid-point or below is often a good confirmation of what symptoms are already telling you. Or, the free T<sub>4</sub> can also reveal our hypo-when it's low in its respective range.

We have also learned to only use the TSH to ascertain poor pituitary function (which can be revealed by having a very low TSH in the presence of raging hypothyroid symptoms). Granted, you might be the rare patient who finally does have an above-range TSH to help diagnose your hypothyroid to a lab-obsessed doctor. But overall, a majority of patients go years before the TSH conforms to their symptoms. (See Chapter 4.)

Antibodies are blood proteins produced by your immune system in response to a problem. There are two antibodies and both need to be measured to ascertain if you have an autoimmune version of thyroid disease called Hashimoto's (See Chapter 9.):

- Those targeting your *thyroid peroxidase* (an enzyme that is important in the production of your thyroid hormones).
- Those targeting your *thyroglobulin* (a protein carrier for your thyroid hormones).

It is too common for doctors to state that these tests are useless (i.e. they see no evidence to order them, even tho your symptoms point to Hashi's), or for only one of the two antibodies labs to be performed. Yet, we have learned both to be valuable, since one can be normal and the other above range. Additionally, knowing you have an autoimmune attack means you can swing between hypo- and hyper like a pendulum. That latter fact, in turn, can make it useless to dose by lab values! (See Chapter 9 on Hashimoto's Disease)

## 2. Additional lab work can be helpful.

Because hypothyroidism can wreak havoc in our bodies, patients have discovered a whole range of additional lab work which is critical. These include but are not limited to:

- 24-hour adrenal cortisol saliva test (requires no prescription)
- Ferritin (iron storage protein)
- Full iron panel, which should include serum iron, % saturation, and TIBC at the least
- B-12
- Vitamin D
- Magnesium, potassium, sodium, calcium, and chloride (or a Complete Metabolic Panel)
- DHEA
- Estrogen
- Progesterone
- Testosterone
- SHBG (Sex Hormone Binding Globulin)
- Iodine Loading Test (a urine test and can be ordered by the patient from the web)
- Reverse T3 (at the same time you do a Free T3). See Chapter 12.
- \*\* See the second half of *Addendum D on how to prepare for lab tests*

It's rare to see any hypothyroid patient without problems in some or many of the above. For example, I have estimated that more than 50% of thyroid patients have a cortisol problem, first too high, or a mix of highs and lows, or all lows, each causing problems. Ferritin/iron issues come next in frequency. Problems in both will always cause issues in raising desiccated thyroid as well as the production of too much RT3. (See Chapters 5 and 6 for adrenals, Chapter 12 for RT3, and Chapter 13 for ferritin.)

Female and male hormonal imbalances come next, adding to many of our problems. Due to hypothyroid, women can find themselves with imbalances in their estrogen and progesterone, as well as testosterone levels. Some have problems getting pregnant. Some bleed too heavily in menstruation. Some enter menopause too early. Hypothyroid decreases SHBG—a protein which carries testosterone and some estrogen through the body. The latter can cause hormonal swings. The symptoms of any of the above sex hormone imbalances can also mimic hypothyroid symptoms.

Equally frequent in thyroid patients are low levels of Vitamin D, B12, iodine and/or potassium, magnesium, and other electrolyte minerals. Years of hypothyroidism lead to poor absorption. I had chronically low levels of both potassium and magnesium, and sub-optimal levels of D and B12.

Ask your doctor for other lab test recommendations, like the Epstein Barr Virus, which can reactivate in some.

## 3. Our adrenal health plays an important role in our thyroid health.

Remarkably, we have discovered that a large percentage of thyroid patients have either dysfunctional adrenal function, or sluggishness, also called adrenal fatigue. Or it can be sluggish communications between your hypothalamus, pituitary and adrenals (HPA). The end result is a mix of high and low cortisol, or mostly low. Cortisol is released by your adrenals to help you cope with stress, besides playing a role in facilitating the thyroid receptors on your cells in receiving the thyroid hormones from your blood.

The consequences of erratic cortisol production are profound for thyroid patients. Not only do you lack the ability to appropriately cope with stress, you lose the success of raising your desiccated thyroid to optimal levels. Thyroid hormones, especially T3, will build high in your blood rather than make it to your cells. You will also have hyper-like symptoms and misery as you try to raise desiccated thyroid. (See Chapter 5)

- Thyroid Stimulating Hormone (TSH) Test
- Total T4/ Total Thyroxine
- Free T4 / Free Thyroxine
- Total T3 / Total Triiodothyronine
- Free T3 / Free Triiodothyronine
- Thyroglobulin/Thyroid Binding Globulin/TBG
- T3 Resin Uptake (T3RU)
- Reverse T3
- Thyroid Peroxidase Antibodies (TPOAb) / Antithyroid Peroxidase Antibodies
- Antithyroid Microsomal Antibodies / Antimicrosomal Antibodies
- Thyroglobulin Antibodies / Antithyroglobulin Antibodies
- Thyroid Receptor Antibodies (TRAb)
- Thyroid-Stimulating Immunoglobulins (TSI)

There is also a thyroid saliva test which is less expensive than blood tests and is well thought of.