

Part 3 Low Thyroid Tuning up the Orchestra

Imagine a conductor standing in front of a symphony orchestra with hundreds of musicians. The melodious strains of music from each instrument blend together in perfect unison or shine individual in solo. With just a wave of the baton, the conductor instructs this violin or that trombone to join in or fade out, speed up or slow down, pacing the tempo with exact precision. Without the baton, the body of musicians would lack cue and timing. Your thyroid is a lot like that baton, releasing hormones that set the momentum and the rhythm in every cell in your body.

A REVIEW

This is the third in the series on thyroid. In brief review, the thyroid gland is the largest gland in the endocrine system. Its primary function is the conversion of food to energy via its two hormones, tetraiodothyronine or thyroxine (T₄) and triiodothyronine (T₃). A sign of low function may be a goiter or enlargement of the thyroid gland, located just under your Adam's apple. Or you may show symptoms of endless fatigue, weight gain, brain "fog", puffiness in the face, depression, dry skin and hair and intolerance to cold. Just as the baton doesn't affect one musician but the whole orchestra, a thyroid malfunction doesn't affect just one body part. When the thyroid slows down, so does your whole body.

As with everything else, when new research emerges, medical opinion changes based on the new data. Such is true with thyroid testing. The upper limit of the TSH value has been lowered, making the diagnosis of hypothyroidism more common than before. As more Americans suffer this disorder—more than 11 million people are hypothyroid; another 8 million have it but are undiagnosed—the problem becomes big enough to warrant attention. Some doctors feel the upper limit of the TSH value is still too high, leaving many with sluggish metabolism in a state of compromised health. As the debate goes on about what a "normal" TSH is, those "on the line" are wondering what to do to feel better. This article will help you decide which factors you can change, which you should maintain and if you're on medication, how that affects the body's symphony as well.

FACTORS TO WATCH

The thyroid is a dynamic gland that is constantly in action, affecting blood cells and systems. Lifestyle choices affect how efficiently this little gland operates. Food, drugs and nutrients either enhance or interfere with thyroid function. The liver and kidneys help to process thyroid hormones, so a compromise of either or both may affect function as well. It would be impossible to list all of the ways the thyroid could malfunction, but here are some of the most common. These factors influence the thyroid by interfering at any one of the stages of hormone production, transport via the bloodstream, and cell entry and utilization.

Water. A basic for life, you should drink 8-10 glasses a day. The majority of drinking water contains fluoride, chlorine or bromide. If you habitually swim in a chlorinated pool, use cleansers with bleach and even brush with fluoride toothpaste, these chemicals slow down function.



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Food. Certain foods that contain chemicals which may suppress thyroid activity and cause goiters (goitrogenic) if eaten in large quantities raw are the cruciferous veggies: broccoli, Brussels sprouts, cabbage, kale, mustard greens, radishes, spinach, turnips, and nuts such as peanuts, pine nuts and walnuts. Soy, by its slight estrogenic effect, may also affect the thyroid by blocking the formation of iodine and L-tyrosine (see Hormones). Limiting yourself to no more than a 4 oz serving of food or 8 oz soy milk is suggested. Cooking the veggies and soy reduces the goitrogenic effect.

Calcium, Iron, Iodine. Whether in food or supplements, calcium and iron can block T₄ absorption. Although you need iodine to make thyroid hormones, believe it or not, too much can slow it down. Iodized table salt is a problem. A better, more natural choice is sea salt. To avoid conflicts, take thyroid meds one half hour before eating in the morning.

“Legal” Drugs. Many people look for energy in “legal” drugs: Alcohol, caffeine, sugar and tobacco. These agents may give you a temporary boost, especially to the adrenals, but then let you “down” again. Nicotine especially impairs T₄ to T₃ conversion. Even if you did not have a sluggish thyroid, you’d feel better without them!

Medications. The list of medications is a long one. How they affect your thyroid will depend on if you are on replacement or not. Some drugs affect the production of the hormone and others the levels of T₄ and TSH. Space does not allow for a full explanation! The following types of drugs in one way or another affect the thyroid: certain diuretics, sulfa drugs, steroids, salicylates, heart rhythm drugs, cholesterol lowering and diabetic agents, estrogens, morphines, ulcer meds, and psychoactives. It’s important to coordinate all medication use with your physician if you take more than one medication. Ask your doctor or pharmacist if there is any likelihood of an interaction.

Other Hormones. When you’re stressed—whether the source is physical, mental or emotional—the adrenal glands overproduce cortisol, the hormone that puts your body into a fight or flight mode. Two things can happen. The excess cortisol 1) interferes with the conversion of T₄ into T₃, the active thyroid hormone and 2) raises insulin levels, which may lead to insulin resistance, weight gain and diabetes. An imbalance of estrogen and progesterone also affects weight. Estrogen dominance causes calories to turn to fat. If your thyroid is working, it converts the fat to calories. A topical progesterone cream may help the body utilize the estrogen, thus offsetting the fat storage.

Radiation. There is also evidence that radiation can cause hypothyroidism, as in what happened following the Chernobyl nuclear reactor disaster. A dose of radiation is often a treatment to slow hyperthyroidism but if too much is given, the thyroid may become hypothyroid. Although low levels, the use of cell phones, televisions, computer screens and irradiated foods can expose you to an accumulated dose of radiation, which may cause free radical damage to the DNA and mitochondria of cells.

Whether you’re on replacement or believe you have low thyroid (despite a “normal” test), you may not feel “like yourself”. Try avoiding or reducing the items above for 3-5 weeks that slow down or interfere with optimal function. Keep a journal and monitor how you feel drinking distilled water, changing to nonchlorine cleansers and skipping the daily dip in the pool or hot tub. If you notice a difference, you may want to adopt those habits into your daily living.

“Your choice of thyroid replacement medication may also make a difference between cellular harmony and discord.”



THYROID MEDS

Your choice of thyroid replacement medication may also make a difference between cellular harmony and discord. The most frequently prescribed drug is Synthroid or Levothyroid, synthetic T₄. If you notice increased sleeplessness, fatigue and irritability, you may be on too high of a dose and need an adjustment. For some, T₄ alone is not effective in lowering the TSH value, which may indicate a problem in converting T₄ to active T₃. You may want to ask your doctor to add synthetic T₃, Cytomel, which can make a dramatic difference in how you feel. Since it comes in three strengths (5, 25 and 50 mcg), it may be easier to find a combination that works for you.

Another T₄/T₃ combination option is synthetic Thyrolar. Finally, there’s natural Armour Thyroid, a desiccated porcine thyroid and a blend of T₄/T₃ that many feel best taking. Like the individual musicians, a finely tuned instrument is the key to perfect harmony.

Have regular checkups. At any time that your medication brand or dose is changed, you should check to see if the change shows up in your blood by having a repeat TSH, free T₃ or free T₄ blood test. It can often take up to 12 weeks to see results but should symptoms worsen before then, notify your doctor. Once you find a dose that suits you and tests are stable, a yearly check is recommended as long as you’re feeling good. Anytime you have sustained stress, enter menopause or become pregnant, or develop a new health problem like high cholesterol or diabetes, your thyroid may need to be checked as these changes may affect (or be affected by) thyroid function.

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NUTRIENT SUPPORT

By now you've learned how not to drop your baton. Besides lifestyle choices, your nutritional status plays a role in supporting a healthy thyroid. A good multiple will provide many of these nutrients. Your diet may supply the rest. Now let's look at the supporting band members.

L-tyrosine is an amino acid that combines with iodine to form the thyroid hormones T4 and T3. A suggested dose is 500 mg once or twice daily on an empty stomach, taken with juice or water; remember not to take it with milk! Another option is to take a mixed amino powder, which includes glutamine (500 mg), and add it to a healthy morning shake. Nutrients that enhance L-tyrosine absorption are B6 (50 mg) and vitamin C (100 mg), B-12 (1000 mg daily minimum, 3,000 maximum in divided doses), and a B-complex. Although beta carotene helps make thyroid, it takes T3 to convert it to usable vitamin A. If you have excessively dry skin, eyes or hair, you may want to supplement with natural vitamin A, up to 15,000 IU daily. (*Caution: Do not take more than 5,000 IU if you are pregnant or planning a pregnancy.*) Flaxseed oil is another nutrient for optimal thyroid functioning and immunity.

Other immune builders are vitamins C (500 mg with bioflavonoids up to four times a day) and E (400 IU), selenium (up to 400 mcg) and zinc (50 mg). Two critical minerals for the thyroid include magnesium and manganese. Without any of these minerals, T4 to T3 conversion will not happen. Again a good multiple may be all you need.

Low thyroid function has been linked to high cholesterol, since thyroid hormone is needed to convert fat to energy. Oxidative stress to blood vessels compounds the problem. CoQ10, found abundantly in the heart, provides both energy and antioxidant protection. Alpha lipoic acid is another antioxidant that supports the liver, which can thus do its job in breaking down cholesterol and regenerating CoQ10. Again, orchestration, one organ helping another!

One point to consider, especially for those with fibromyalgia and chronic fatigue, is the role of stress and its effect on the hypothalamus. Under duress, the hypothalamus shuts down defensively, resulting in low thyroid hormone production and symptoms of low metabolism. It may be the mitochondrial dysfunction that causes the hypothalamus suppression. CoQ10 provides support for the mitochondria.

Valerian Rest™ and 5-HTP help you fight the associated sleep disruption, as well as in reducing achiness in muscles and in uplifting mood swings. Adrenal support can be enhanced with the herbs Eleuthero (Siberian Ginseng) and Astragalus, as well as DMG (B15). Another herb, Ashwagandha has been shown to favorably affect T4, T3. And don't forget progesterone cream for balancing estrogen.

Finally, a word about osteoporosis and thyroid replacement. Previous medical opinion suggested that too much T4 caused bone loss, resulting in an increased risk of fractures and potentially developing osteoporosis. Newer data does not confirm this opinion. Not treating an underactive thyroid can result in osteoporosis, however. For your peace of mind, have a bone density test (DEXA), make sure you take a 2:1 calcium to magnesium complex and try to get weight bearing exercise.

SUMMARY

I'm glad you stuck with me to get this far! A lot of factors are involved in thyroid function. This is only a small wave of the baton and not the whole symphony. I strongly suggest that you pick up one of the books below. Make notes in the margins and copy parts that you may want to discuss with your physician since they are all written by doctors well versed in thyroid dysfunction. Whether you're dealing with suboptimal thyroid function or diagnosed with Hashimoto's, it may take practice (and more practice) with the baton. Whenever a new factor (musician) gets thrown onto the stage, you may need to re-tune again. Before you know it, you'll be enjoying the harmony of the "music" your thyroid is making.

Resources

1. Goldberg, B. *Alternative Medical Guide to Chronic Fatigue, Fibromyalgia and Environmental Illness*. Future Medicine Publishing, 1998.
2. Rothfeld, G & Romaine, D. *Thyroid Balance*. Adams Media, 2003.
3. Shames, R & Shames, K. *Thyroid Power, 10 Steps to Total Health*. Quill Publishing, 2001/2002.
4. Siegal, S. *Is Your Thyroid Making You Fat?* Warner Books, 2000.

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