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Hypothyroidism Type 2: a new way of looking at an old problem

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The Basics of An Epidemic

What do chronic pain, diabetes, heart disease, menstrual difficulties, and sleep apnea have in common? As physician Mark Starr points out in his extensively researched book, *Hypothyroidism Type 2: The Epidemic*, there's an excellent chance that this apparently disparate collection of disorders—among literally dozens, if not hundreds—indicate abnormally low thyroid function.

The thyroid is a butterfly-shaped endocrine gland located at the throat that produces numerous related hormones: thyroxin (also known as T4), liothyronine (also known as T3), T2, and T1. T4, the most well known of all the thyroid hormones, heats the body and speeds metabolism (of fats, proteins and carbohydrates) and heart rate. T3, the most active form of thyroid hormone, also heats the body and speeds metabolism and heart rate. At best, T4 is only about one-quarter as potent as T3, and in any case most is converted into the more active T3 by the liver, kidneys, and other body cells. T2 stimulates metabolism, while one animal study showed that T1 cools the body and slows the heart. Together, all four of these related hormones probably act synergistically in ways that are not yet fully understood.

Thyroid underactivity, commonly called *hypothyroidism*, was first reported in London in 1875. According to many reliable sources, including doctors Broda Barnes, David Derry, Jacques Hertoghe, and James Howenstine, at least one-third to one-half of the US population suffers from slight to severe hypothyroidism.

In his book, Starr explains the differences between Types 1 and 2.

- ◆ *With Type 1 Hypothyroidism*, the thyroid does not produce sufficient amounts of hormone to maintain “normal” blood levels of hormones, which in turn will maintain normal blood levels of thyroid-stimulating hormone (TSH) produced by the pituitary. (I will say more about TSH a little later.)
- ◆ *With Type 2 Hypothyroidism*, the thyroid gland produces “normal” amounts of hormone, but the cells are unable to utilize the hormone properly. Some experts call this *thyroid hormone resistance* (which may be regarded as similar to insulin resistance).

Laboratory tests showing inadequate bloodstream levels of thyroid hormone make it easy to diagnose Type 1 hypothyroidism. However, lab tests fail to detect Type 2 hypothyroidism, because despite adequate bloodstream hormone levels, the cells are unable to accept and utilize that hormone (for a variety of reasons, which I'll address in a moment). Since the main problem lies with the cells that are actually utilizing the hormone, a different approach needs to be taken when testing for (and to a certain extent, when treating) Type 2 hypothyroidism.

Since many more people suffer from Type 2 than Type 1 hypothyroidism, and because Type 2 is widely misunderstood and misdiagnosed, this article will focus on Type 2: its manifestations, the best way to diagnose it (it's not with lab tests), and its treatment. For this article, I have drawn heavily from Mark Starr's book, *Hypothyroidism Type 2: The Epidemic*.

Dr. Starr became interested in the subject for both personal and professional reasons. More than a dozen years ago, he embarked on a quest to heal his own chronic pain, fatigue and allergies after receiving no relief from the majority of physicians with whom he consulted. Professionally, while treating thousands of people who suffered chronic pain alongside a wide range of disorders, he discovered a pattern. The underlying cause or contributing factor to their pain was low thyroid function. Dr. Starr's book is the result of over a decade's worth of intensive research and writing about the history, problems, politics, personnel, literature, case studies, and treatment related to hypothyroidism. I had the opportunity to visit Starr's new clinic, which is near my home, so at the end of this article I will also give a brief description of his practice.

Endless Disease Conditions

Most people (correctly) regard the thyroid as responsible for proper metabolism. However, this gland plays a major role in hundreds of bodily functions. Here is just a sample of the many symptoms and conditions that can be indirectly or directly caused by an under-functioning thyroid gland:

- ◆ Appetite disruption (heightened or diminished).

- ◆ Autoimmune conditions, including allergies, lupus and rheumatoid arthritis.
- ◆ Blood sugar disorders, such as diabetes, hypoglycemia, or a combination of the two.
- ◆ Cancers, all kinds.
- ◆ Cardiovascular abnormalities, including high cholesterol, poor circulation, heart palpitations, hypertension (high blood pressure), and hypotension (low blood pressure).
- ◆ Dental problems, including chronic gum infections, receding gums, and TMJ or Temporomandibular Joint dysfunction (clenching of the teeth, leading to chronic inflammation and pain in the temporomandibular joint).
- ◆ Fatigue and lethargy.
- ◆ Gastrointestinal disorders, including irritable bowel syndrome, and impaired digestion leading to constipation and nutritional disorders.
- ◆ Heart conditions, including coronary artery disease from accelerated atherosclerosis (hardening of the arteries), arrhythmia (irregular heartbeat), abnormal blood pressure (either too high or too low), diminished cardiac output, weakness of the heart muscle and congestive heart failure.
- ◆ Hoarseness of voice, difficulty in swallowing, swollen enlarged tongue, and sleep apnea.
- ◆ Immune response malfunction, leading to increased infections (including *Candida albicans*) in all parts of the body.
- ◆ Mental and emotional problems, including difficulty in cognition, and anxiety, depression, memory loss, manic depression, psychosis and schizophrenia.
- ◆ Metabolism malfunctions, leading to weight gain (usually) or weight loss (occasionally).
- ◆ Muscular disturbances, including ataxia (lack of coordination), carpal tunnel syndrome, fibromyalgia, and weakness.
- ◆ Neurological impairment, including but not limited to ear conditions (deafness, tinnitus and vertigo), headaches and migraines, Multiple Sclerosis and paresthesia (numbness and “pins and needles” in nerves).
- ◆ Pain in joints and muscles, including arthritis and fibromyalgia.
- ◆ Perspiration reduction.
- ◆ Reproductive disorders, including birth defects, cysts in breasts and ovaries, endometriosis, infertility and menstrual disturbances.
- ◆ Respiratory conditions, including asthma, emphysema, pneumonia and chronic sinus infections.

- ◆ Skin disorders, including acne, alopecia (hair loss), boils, dryness, eczema, hives and psoriasis.
- ◆ Sleepiness and sleep apnea.
- ◆ Slowed movement and speech.
- ◆ Structural weaknesses/deformities and impaired ability to repair damaged tissues, manifesting in brittle nails, brittle or scant hair (including baldness), degenerating bones (osteoporosis), malformed bones (scoliosis), and thinning and loss of eyebrows, notably the outer third.
- ◆ Temperature regulation malfunction: intolerance to heat, and excessive coldness, particularly in extremities.
- ◆ Urinary tract problems, such as urinary infections and especially kidney failure from shrunken, scarred kidneys.

Why So Many Conditions?

How is it possible that the malfunction of one tiny gland can influence so many other functions that do not seem related to each other?

Consider the most obvious effect of an underactive thyroid: reduced cell metabolism of proteins, fats and carbohydrates. This not only means inefficient transport of nutrients into the cell membrane, but also inefficient transport of wastes out. As holistic practitioners well know, inadequate nourishment and the buildup of toxins (regardless of the cause) can exacerbate or outright cause virtually all conditions that we call “disease.” The more toxins engorge the cells, the more one becomes susceptible to infections and degenerative conditions. As it turns out, the *mitochondria*—microscopic energy-burning units of the cell responsible for about 90% of the energy production that our cells, tissues and organs require for metabolism—are intimately affected by thyroid dysfunction. Starr writes:

Thyroid hormones are responsible for our metabolism. When thyroid hormones are given to animals, trillions of mitochondria increase in size and number. The total membrane surface of the mitochondria increases almost directly in proportion to the increased metabolic rate of the whole animal. My medical school textbook, *The Textbook of Medical Physiology*, states: “It seems almost to be an obvious deduction that the principal function of thyroxin [thyroid hormone] might be simply to increase the number and activity of mitochondria.”¹

¹ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 55

The beneficial symbiotic relationship between mitochondria and thyroid hormone works both ways. Adequate levels of thyroid hormone not only increase mitochondria number and function, but as Starr points out, “mitochondrial mutations appear to be largely responsible for the metabolic defects at the cellular level, which result in a hypothyroid-like condition. . . . Defects in mitochondria, as well as synthetic toxins, impair thyroid hormone metabolism at the cellular level.”² Not surprisingly, symptoms of mitochondrial disease are the same as symptoms of hypothyroidism.

There are scores of environmental toxins that interfere with every aspect of thyroid metabolism and cause the mitochondria to malfunction. These include petroleum and petroleum byproducts; pesticides, herbicides and fungicides; heavy metals, among them mercury, arsenic, lead, aluminum, barium, and cadmium; organic solvents, including benzene, toluene, trichloroethylene and dichloromethane; and numerous other synthetic chemicals. Fat-soluble toxins lodge in the fat cells that lie beneath the skin and surround internal organs. Women, whose bodies contain more fat than men’s, hold proportionately more toxins in their systems—and thus, one might assume, suffer from hypothyroidism in much greater numbers than do men. Statistics show this to be true.

Faulty thyroid receptors on the cell membranes as well as mitochondrial mutations can cause a hypothyroid condition. “Defective thyroid receptors,” Starr writes, “may prevent a sufficient supply of hormones that are circulating in our blood from reaching the mitochondria and other crucial sites such as the nucleus of the cell. The nucleus is where the thyroid hormones activate genes and stimulate *protein synthesis*, among a host of other tasks.” [emphasis added]³ This explains why so many people with underactive thyroids have brittle nails and hair, and even bone defects. If the body cannot utilize amino acids to create new, properly formed tissue, the cells will be imperfect and cause structural abnormalities.

Myxedema, which is the retention of mucin, can also occur when the tissues do not properly process and utilize thyroid hormone. (*Myx* is the Greek word for “mucin” and *edema* means “swelling.”) *Mucin* is a compound comprised of sugars bound to a protein, and in modest amounts is a constituent of connective tissue. (Connective tissue lines blood vessels, comprises nerve sheaths, is part of the fascial envelope surrounding muscles, and is in organs and glands, in the gastrointestinal and urinary tracts, and in the mucous membrane lining of the respiratory tract, including the sinuses.) By nature, jelly-like mucin absorbs water. When present in normal amounts, mucin is not a problem. But in excess, the hydrophilic (water-loving) mucin can cause serious problems wherever it accumulates in the connective tissue. Over half of the hypothyroid population (55%–60%) has abnormally high amounts of mucin, which accumulates more with age. In fact, the medical term for “hypothyroidism” used to be *myxedema*.

² Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 59, 69.

³ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 61.

You can see how an underactive thyroid can be responsible for so many debilitating and apparently disparate health problems. Just a small sample includes heart disease, digestive disorders, liver malfunction, lupus, muscular pain, neurological impairment, sinusitis, and sleep apnea (caused by a swelling of the trachea and larynx). Also worth noting are TMJ (Temporomandibular Joint) problems. These often accompany hypothyroidism due to slow contraction and relaxation of the muscles. Muscle spasms are common in hypothyroidism, as are arthritic changes and joint effusions (an abnormal buildup of joint fluid).

Inadequate thyroid hormone at the cellular level also negatively impacts other glands. “Without the crucial influence of thyroid hormones,” Starr emphasizes, “proper maturation and function of the other hormone glands is not possible.”⁴ To compensate for the weakness and low metabolism caused by inadequate thyroid hormone, other parts of the body overwork, including the adrenals and the sympathetic nervous system. This may cause the subject to temporarily experience a rapid heartbeat, and/or feel hyperactive, jittery and restless—until exhaustion sets in from the unnatural attempts to compensate for low thyroid hormone levels. More often, though, the majority of sufferers simply feel fatigued and weak most of the time.

As you review the previous list of health conditions directly caused or heavily influenced by hypothyroidism, keep in mind the phrases *poor utilization of thyroid hormone by the tissues*, *excess mucin*, and *inadequate function of other glands*. Just these three descriptions can explain almost all of those symptom pictures.

Flawed Lab Tests

The biggest error in hypothyroid diagnosis is the medical profession’s excessive reliance on laboratory tests only, to the exclusion of the subjects’ symptoms. When hypothyroidism was first detected in the 1800s, physicians listened to the people who actually had the disorder, and based their treatments on what they observed and on what their clients told them. There are many physical signs of hypothyroidism, among them puffy face and lips, hair loss, dry puffy skin, abnormally slow movements and speech, hoarse voice, and intolerance to cold. (Not only does the person subjectively feel chilly, but the hands and feet feel cold to another person’s touch.) Mark Starr writes that in the early 20th century,

the ultimate test of whether or not a patient was hypothyroid was *the patient’s response to a trial of thyroid hormones. Confirmation depended upon improvement or resolution of their symptoms. . . .* [But] the list of thyroid blood tests grew until there were scores of available tests. Unfortunately, they failed to improve the ability to detect Type 2 hypothyroidism.

⁴ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 1.

Today, the overwhelming majority of doctors are taught to check only the patients' blood tests if they suspect hypothyroidism. If the tests are normal, the search begins for other possible causes of their problems. *The vast majority of patients with hypothyroidism have normal thyroid blood tests, because the tests do not detect Type 2 hypothyroidism.* Countless new syndromes, both mental and physical, have been adopted in [futile] attempts to explain the myriad symptoms related to hypothyroidism. [emphasis added]⁵

How ironic—though one must admit, not surprising!—that with the mechanization of medicine, along with its reductionist laboratory tests and synthesized pharmaceuticals, the person's own experiences and symptoms became secondary to the practitioner's theories. In the words of Starr, medical professionals have become “blinded by their devotion to the laboratory tests.”⁶ Drawing on the groundbreaking (and commonsense) work of pioneer physicians—including Broda Barnes, Eugene Cohen, Jacques Hertoghe, Hermann Zondek, Hans Kraus, and Lawrence Sonkin (the latter two with whom he studied)—Starr analyzes in depth some common misconceptions about thyroid testing. The most commonly used blood test, which is based on the theory of the TSH-thyroid hormone feedback loop, contains a simple but major flaw. Since so many doctors rely on this test to make an accurate diagnosis, it's worth addressing.

The most common blood test for hypothyroidism depends on the following assumptions. The body tissues transmit their need for thyroid hormones to the hypothalamus in the brain, which sends a signal to the pituitary gland. In turn, the pituitary secretes thyroid stimulating hormone (TSH), which signals the thyroid gland to secrete more hormones. These hormones are then carried by the bloodstream to the tissues. The action of the thyroid hormones on the tissues reduces the tissue signals to the brain for more thyroid hormones, and the pituitary stops secreting TSH.

The problem with this scenario is that *most of the time, the mitochondria in toxic and defective cells are unable to convey to the brain their need for thyroid hormone, even if it's urgently required.* In fact, according to numerous studies, people whose mitochondria tested abnormal nonetheless had normal thyroid hormone levels in their blood. Modern thyroid blood tests, Starr reminds us, do not detect Type 2 hypothyroidism “*because thyroid hormone levels [in the bloodstream] may be normal, but they are not high enough to stimulate the . . . defective mitochondria into normal activity.*” [emphasis added]⁷ Nor are the blood thyroid hormone levels high enough to induce the resistant receptor sites on the cells to start accepting hormone. Any part of the cell can be involved in the failure to process and utilize thyroid hormone. “There is no

⁵ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 63–64.

⁶ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 71.

⁷ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 59.

scientific evidence,” Starr bluntly states, after providing a detailed review of the literature, “to support the doctors’ claim that the TSH test detects hypothyroidism in the vast majority of patients. The validity of the TSH [tests] has been [solely] established by word of mouth and [only] purportedly by the [flawed] studies I have presented.”⁸ Unfortunately, few medical personnel appear to have read the literature upon which the presumed validity of the TSH test was based—or read it with a careful enough analytic eye.

The Need to Observe Clinical Symptoms

I have already mentioned the clinical observation of numerous signs, such as puffy face and lips, thinning or lack of hair, the missing third of the outside of the eyebrows, swollen skin, lack of alertness, slowed speech, hoarseness, and cold extremities. And, of course, there’s the common weight gain and tendency toward chronic infections.

There is also another very simple hypothyroid indicator that was developed by Broda Barnes, MD, PhD (he died in 1988). Barnes told his clients to take their armpit temperature before rising every day, usually over a period of weeks. If the temperature averaged lower than 97.8°F, the person was considered hypothyroid. Starr points out that the basal temperature test for hypothyroidism is “not infallible”⁹—for example, someone might be hypothyroid but have a near-normal basal temperature, suggesting that the higher-than-expected temperature readings may be due to chronic inflammation in the lungs or elsewhere. Nevertheless, Barnes’s temperature test is still an effective and accurate diagnostic tool in most instances.

Again, I refer the reader back to the extensive list at the beginning of this article. By now, it should be clear that hypothyroidism is fairly easy to detect, once you know what to look for.

One more thing. A prominent research study in the *Journal of Clinical Endocrinology* found that some people with severe biochemical hypothyroidism exhibited only mild clinical signs, whereas others with minor biochemical changes exhibited severe clinical signs.

Treatment for Type 2 Hypothyroidism

1. Replacement Hormone

Whether the person’s thyroid gland is not producing enough hormone, or the cells are unable (for whatever reason) to process what the gland is producing, the treatment is the same: replacement hormone.

From the perspective of conventional medical training, flooding the system with thyroid hormone, in amounts greater than what laboratory blood tests might indicate are useful or prudent, may seem questionable. But consider the highly dysfunctional state of the mitochondria

⁸ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 70.

⁹ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 137.

and/or cell receptors. If you saturate the tissues with enough hormone, and for a long enough period, even malfunctioning mitochondria and stubborn receptor sites will start processing and utilizing the hormone. Once the body begins to function correctly, it has the potential to self-correct. Then, conceivably, the hormone dosage can be reduced. This points to the need for careful monitoring of people with Type 2 hypothyroidism.

It's easy to assess a body that is starting to heal, Starr maintains. "The increased basal temperature that results from administering desiccated thyroid is a direct result of enhanced mitochondrial activity."¹⁰

What type of pharmaceuticals work best? Up until the 1960s, people suffering from hypothyroidism were given desiccated thyroid derived from pigs. This means the entire dried gland and its contents—all four forms of thyroid hormone, RNA, DNA, and other co-factors. But by the 1970s, isolated thyroxin (T4) was introduced as the "gold standard" of thyroid medications. By definition, thyroxin is only a portion of the thyroid hormone complex. Since it does not contain the synergistic effects of the entire glandular material, not surprisingly it proved less effective clinically than the desiccated thyroid.

One such study on the superiority of desiccated thyroid over thyroxin was conducted in Belgium, and was published in 2001 by endocrinologist Jacques Hertoghe and his colleagues in the *Journal of Nutritional and Environmental Medicine*. Subjects showed marked improvement when they began taking desiccated thyroid instead of only T4. The hallmark symptoms of low thyroid—constipation, headache, joint and muscle pain, muscle cramps, depression, cold intolerance and fatigue—were reduced by 70% after they switched from T4 to desiccated thyroid. "Symptoms of the patients already taking T4," notes Starr, reviewing the study, "*did not differ from those of the group of untreated patients.*" [emphasis added]¹¹

Occasionally, Dr. Starr has found, some people require compounded T3 or T4 only, or combinations of the two, because they are either allergic to, or unable to tolerate, desiccated thyroid. Or, they don't want to take the desiccated pork product for religious reasons.

Whatever replacement hormone product is used, it's crucial that the client be monitored on a regular basis. This includes *self*-monitoring. The doctor must be willing to work closely with the client as well. And the client must be willing and able to detect physiological changes that indicate too little or too much hormone, and regularly report to the doctor.

Significantly, as one's metabolism becomes more efficient, perspiration will increase, allowing for the elimination of more toxins. As more toxins are eliminated, the better the cells—including the mitochondria and hormone receptor sites—will function. This suggests that mitochondrial defects can be corrected, given enough time, patience and dedication. See below.

¹⁰ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 59.

¹¹ Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), 175.

2. Detoxification

Some of the most significant stressors of mitochondria are heavy metals. Mercury is particularly insidious, as it's everywhere in our environment and affects the system in devastating ways. It can also be difficult to eliminate. Intravenous chelation therapy has proven effective, but is expensive and time-consuming. Less expensive but effective alternatives include the oral ingestion of broken cell wall chlorella, liquid zeolite, alpha lipoic acid, and certain amino acids in the correct proportions, often in combination with each other.

The fact that a good portion of the T4 to T3 conversion takes place in the liver also points to the need for a good detox liver protocol, as this organ is primary in converting systemic and environmental poisons into less noxious, more easily excretable substances. An overall excellent—and easy—means of detoxifying is sweating. Sweating reduces the waste removal burden on the kidneys, liver, and eliminative organs. Numerous studies have shown vastly decreased levels of mercury and other toxins after even only a few weeks of regular sauna therapy. In fact, subjects have been known to blacken their towels with the metals excreted through the skin during sweating. My book, *The Holistic Handbook of Sauna Therapy*, discusses sauna protocols in depth: the mechanism of sweating; the three types of heat, including details on far infrared; what types of heating elements and sauna building materials are best for people with particular sensitivities and needs; how to take a sauna and avoid heatstroke; which medical conditions can be relieved by sweating, when one should not use the sauna at all and when one may use the sauna with medical supervision; pregnant women and children in the sauna; and specific detox protocols.

Be aware that sauna therapy can achieve opposite effects with regard to medication. On the one hand, some medication may be sweated out of the system. On the other hand, the elimination of toxins increases the metabolic efficiency of the cells, which means that in many cases a drug is more efficiently absorbed into the cell—and therefore will be needed in reduced amounts. Whatever detox protocol you use, it needs to be consistent. Sometimes it can take longer than desired to eliminate toxins from deep inside the tissues.

3. Nutritional Support

Iodine is essential for proper thyroid function. Potassium iodide is absorbed directly by the thyroid gland, whereas iodine tends to be more heavily concentrated in the breasts, reproductive organs and respiratory tract (including the sinuses). Both forms of iodine are necessary for optimal functioning. Some types of seaweed added to the diet, such as dulse, provide large quantities of iodine.

To assist in the conversion of T4 to T3, supplementation with selenium, zinc, and Vitamins E and B6 are usually indicated. Manganese, known to protect the thyroid and liver, is sometimes called the “anti-pear nutrient,” so named because it helps eliminate the faulty weight distribution pattern common with hypothyroid people.

Thyroid hormone increases the enzyme levels in the body. Since vitamins are essential constituents of both enzymes and co-enzymes, increased thyroid hormone levels require a higher intake of vitamins.

4. Glandular Support

Adrenal and thyroid function are intricately related. Sometimes, hypothyroid subjects are unable to tolerate even sub-therapeutic amounts of thyroid hormone due to adrenal fatigue. (In their attempt to raise the energy of the body and compensate for the under-activity of the thyroid gland, the adrenals have overworked and are now exhausted.) Therefore, support for the adrenals, other glands, and even the hypothalamus, may be indicated during or even before beginning thyroid hormone therapy.

Dr. Mark Starr's Clinic

In early 2008, Dr. Mark Starr left his established and thriving pain clinic in Atlanta, Georgia to relocate to Phoenix, Arizona. In his spacious, comfortable, and conveniently located Paradise Valley office, Starr continues to practice his specialty: the elimination of pain, and the treatment of hypothyroidism, usually with desiccated thyroid hormone. (Some people are allergic to pork, are vegans, or have religious objections to pork, so they take the compounded pharmaceuticals.) Starr also specializes in sports injuries, using FDA-approved and FDA-cleared electromedical devices that include a state-of-the-art laser and the Tennant Biomodulator®.

As an author in the holistic health field who specializes in electromedicine, I was very impressed with the range of therapies available in Dr. Starr's clinic. I was also impressed with Starr's knowledge, obvious passion, caring, and dedication to helping people regain their health. Having dealt with his own hypothyroid issues and been obliged to dig for answers that at the time were not readily available, Dr. Starr makes an excellent advocate for those seeking competent medical treatment.

Summary

Dr. Mark Starr's extensively researched book, *Hypothyroidism Type 2: The Epidemic*, is essential reading for both professionals and laypersons. The book cites long-term studies, involving thousands of subjects, showing that hypothyroidism is rampant. Starr's book also explains how Type 2 hypothyroidism develops, and describes the best treatments for it. Physicians in all specialties who want to augment the efficacy of their care should read Dr. Starr's book. The many photographs in the book of hypothyroid people, before and after treatment with thyroid hormone, reinforce the differences between hypothyroidism and normalcy in an unmistakable and striking way. Anyone who looks at these "before" photographs is bound

to recognize someone they know—someone who could have been helped to overcome a debilitating condition, if only they or their doctors knew about it.

Unfortunately, hypothyroidism is often the last possibility considered for those who are unwell. Since thyroid hormones are intricately related to virtually every bodily function, hypothyroidism can cause or exacerbate an almost unlimited number of conditions that initially might not seem related to each other. This points to the importance of applying an integrative approach to how the body functions, instead of perceiving various conditions as discrete “diseases.”

Laboratory tests for hypothyroidism miss the vast majority of sufferers. The most commonly performed, “gold standard” tests do not reveal what is occurring at the cellular level. If the cells are unable to utilize and process thyroid hormone, even with normal bloodstream thyroid hormone levels, the person has hypothyroidism—in this case, Type 2, which is pervasive in a large percentage of the population, and unrecognized by mainstream medicine.

The client’s history and clinical exam are the best diagnostic tools for hypothyroidism: in fact, they are the basis of good medicine. If the person’s clinical picture improves when s/he takes thyroid hormone, then s/he is hypothyroid! This simple concept can be difficult for some professionals to grasp, especially if they insist on ignoring their clients’ symptoms at the expense of erroneous theories. As Dr. Thomas Boc remarks: “There are countless thousands of people who are in failing health because their doctors are not listening to what the patient is trying to tell them about their illnesses. They [the doctors] have been trained to rely on blood tests more than on the history and examination of the patient.”¹²

Desiccated thyroid is more effective than T4 (levothyroxin) for treating hypothyroidism. Prominent studies prove that heavy metals, especially mercury, interfere with thyroid hormone uptake and utilization. Therefore, detoxification protocols such as chelation and sauna therapy are indispensable. So is proper nutrition, including supplementation with iodine and other minerals like selenium, without which thyroid hormone cannot be utilized and converted into a form useable by the tissues. As the body eliminates toxins and nutrient absorption is improved, the thyroid hormone dose may need to be decreased. Thus, care must be taken to monitor the client’s responses.

It’s critical that health practitioners learn how to diagnose and treat Type 2 hypothyroidism. The ability to work with this condition indicates a caring, open-minded and competent professional who is free from rigid and antiquated notions that do not reflect the lives, suffering or medical conditions of real people. Clients fortunate enough to obtain proper treatment for hypothyroidism enjoy a vastly improved quality of life—physically, mentally, emotionally, and spiritually.

[Continued]

¹² Mark Starr, *Hypothyroidism Type 2: The Epidemic*. (Columbia, Missouri: Mark Starr Trust, 2007), p. xvi.

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Proper Thyroid Supplementation Prevents Heart Attacks

[In 1948] the National Heart Institute began the Framingham Study . . . officially named “The Heart Disease Epidemiology Study.” The objective: to determine why heart attacks were rapidly reaching epidemic proportions.

Over 5,000 adult residents of Framingham, Massachusetts volunteered to participate in the long-term medical study. The group underwent thorough physical exams. All were free of heart disease initially. Participants were examined at two year intervals. People who later suffered heart attacks helped determine the so-called “risk factors” that became associated with the illness. Risk factors included high blood pressure, elevated cholesterol, increasing age, and having a family history of heart attacks. Men were found to be at higher risk of heart attacks than women. . . .

In 1950 . . . Dr. [Broda] Barnes began a long-term study to determine if proper treatment of hypothyroidism would prevent heart attacks. . . . Dr. Barnes intended for his study to parallel the Framingham Study. . . . [His] research included 1,569 patients who received treatment for their hypothyroidism. A minimum of two years of thyroid therapy was required to be included in the study. . . . An individual patient’s symptoms, response to the hormones, and basal temperatures determined their dosage of thyroid hormones. . . .

The Framingham Study would have predicted that 72 of Dr. Barnes’s patients should have suffered heart attacks. Only four occurred. . . . Dr. Barnes purposely did not attempt to control cholesterol, smoking, exercise, or other variables among his study group. He wanted the only variable between his patients, and those from the Framingham Study, to be the use of thyroid hormones. . . .

Over 90% of predicted heart attacks from the Framingham Study were prevented. . . . Dr. Barnes predicted that our massive effort to control heart attacks would fail, unless we recognized and properly treated hypothyroidism.

—Mark Starr, MD(H)

Hypothyroidism Type 2: The Epidemic (2007), 34–35



Before and after desiccated thyroid therapy.
Source: Hertoghe, Eugene. *The Practitioner*,
Jan 1915, Vol XCIV, No 1.
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Before and after desiccated thyroid therapy.
Source: Hertoghe, Eugene. *The Practitioner*,
Jan 1915, Vol XCIV, No 1.
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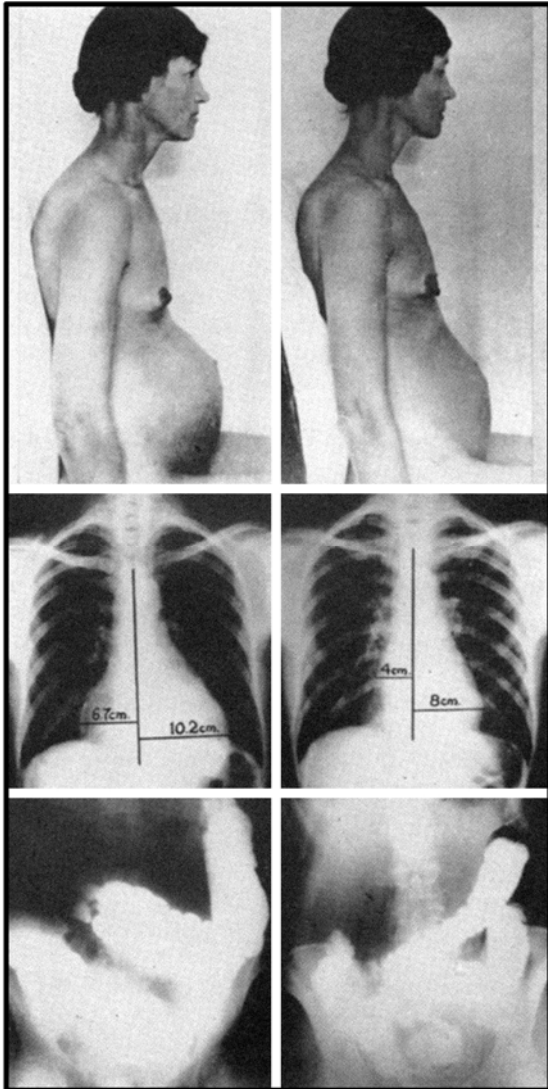
Before and after desiccated thyroid therapy.

Source: Allbutt, T.C. *A System of Medicine*. London: Macmillan and Company; 1901.
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Before and after desiccated thyroid therapy.

Source: Lisser, H., and Escamilla, R.F. *Atlas of Clinical Endocrinology: Including Text of Diagnosis and Treatment*. C.V. Mosby Company, 1957. Reprinted with permission.



Top left: Woman with abdominal fluid (ascites) before desiccated thyroid therapy.

Top right: The same woman, no longer with ascites, after 3 months of desiccated thyroid hormone therapy.

Middle left: Person with enlarged heart before desiccated thyroid therapy.

Middle right: The same person with a successful resolution of congestive heart failure—a normalized heart—after 3 months of desiccated thyroid hormone therapy.

Bottom left: Person with enlarged and inflamed colon before desiccated thyroid therapy.

Bottom right: The same person, now with a normal colon, after 3 months of desiccated thyroid hormone therapy.

Source: Lisser, H., and Escamilla, R.F. *Atlas of Clinical Endocrinology: Including Text of Diagnosis and Treatment*. C.V. Mosby Company, 1957. Reprinted with permission.

These are the last “before” and “after” pictures concerning hypothyroidism treatment that Dr. Starr has seen in any endocrinology textbook.

With all of the above subjects, the only thyroid hormone treatment available at the time was from desiccated thyroid.

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About the Author

Nenah Sylver, PhD, is an internationally published author in the fields of holistic health, electromedicine and psychology. She gives educational seminars on electromedicine and frequency healing, and has been a featured speaker at Rife conferences.

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