

THE THYROID SOLUTION

A REVOLUTIONARY
MIND-BODY PROGRAM FOR
REGAINING YOUR EMOTIONAL
AND PHYSICAL HEALTH

RIDHA AREM, M.D.



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More praise for
THE THYROID SOLUTION

“This book has had a profound impact on the way I think, on how I see patients and on my perception of the connection between the brain and hormones. If you’re a woman, get this book. If you’re a man with a woman in your life, get this book. If you’re a man, get this book. The idea is—get this book.”

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“This book will be of tremendous help to the many people with thyroid disease and residual depressive symptoms. Dr. Arem elegantly addresses the important interplay of thyroidology and psychiatry.”

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—E. CHESTER RIDGEWAY, M.D.
Head, Division of Endocrinology, Metabolism and
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Center

T H E
T H Y R O I D
S O L U T I O N

A Revolutionary Mind-Body Program for
Regaining Your Emotional and Physical Health

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NEW YORK

The case histories included in this book are based on the author's experience with his patients, although patients' names and personal information have been changed to protect their privacy. The opinions and recommendations in this book are those solely of the author. Baylor College of Medicine and affiliated teaching hospitals share no responsibility whatsoever for the writing or publication of any portion of this book. The information contained in the book is provided for educational purposes only. You need to seek the advice of your health care professional before you use any recommendation found in this book.

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PREFACE TO THE 2007 EDITION

At the time that the first edition of this book was released, patients suffering from thyroid imbalance, whether or not they had been diagnosed, had very limited resources to learn about their condition and understand and validate their symptoms and suffering. Millions of thyroid patients throughout the world were misunderstood, misdiagnosed, and made to feel like their symptoms were all in their heads. The link between thyroid imbalance and mood disorders, including depression, and the role played by thyroid hormone in regulating mood, emotions, behavior, appetite, and women's hormonal health were seldom expressed in books or by the media.

Some thyroid patients chatted on the Internet, sharing their experience to try to understand their symptoms, and refused to believe that they were crazy. Books about thyroid disorders basically chronicled the symptoms and signs of the conditions in a medical-textbook format, without describing the real-life issues and challenges faced by thyroid patients, or providing ways to understand and cure thyroid imbalance.

When *The Thyroid Solution* was first published, I received thousands of e-mails from patients throughout the world, thanking me for writing the book. I continue to hear how it has changed the lives of so many people suffering from thyroid disorders. Because my vision on the impact of thyroid imbalance on a person's health and life, and my comprehensive and futuristic approach to caring for thyroid patients is beyond what has been taught by conventional medicine, many conventional doctors, including endocrinologists, expressed some disagreement with my vision and approach—and I was expecting this.

Over time, however, increasing numbers of these physicians have come to understand my vision and to adopt my successful approach in caring for thyroid patients. Increasingly, thyroid patients are not treated based on laboratory testing only. More doctors now listen carefully to their patients' symptoms and are more aware that suffering may linger even after blood tests become normal with treatment. More doctors show compassion and provide more ways to alleviate the symptoms. But despite the progress we have witnessed, it is still not enough.

Since the first edition of this book, I have gained more knowledge from both the patients I cared for and from the expanding medical research published in the past few years. The first edition had triggered a great interest among colleague researchers in understanding further how the thyroid system affects our health and physical and mental well being, and in validating further the benefits of the comprehensive mind-body approach to treating patients suffering from a thyroid imbalance. Major advances have been made in recent years in recognizing the importance of healthy nutrition, the use of mind-body techniques, the consumptions of vitamins and antioxidants, and the fine tuning of medications while caring for thyroid patients. We now know more about the link between thyroid disorders and other autoimmune conditions such as pituitary dysfunction, growth hormone deficiency, fibromyalgia, and adrenal insufficiency, to name but a few. We now know more about female hormonal issues and how they are affected by the thyroid gland, about the benefits of hormonal treatments, and about how to use hormonal replacement therapy. We also know more about how weight is regulated, how the thyroid system affects the complex regulation of appetite and metabolism, and how thyroid patients can win the weight battle. We have gained more knowledge in the field of depression, anxiety, and mood-swing disorders, and the relationship between these disorders and the thyroid system. Many newer medications and treatment methods have become available to treat mental disorders, which the thyroid patient needs to know about. We also know more about what triggers and perpetuates autoimmune reactions on the thyroid, the roles of stress, environment, and vitamins and antioxidants in maintaining thyroid health. The physicians who care for thyroid patients now know that we should treat not only the thyroid and merely correct blood tests but also provide the best support possible to both the immune system and the mind.

The book has been extensively revised and rewritten to include this knowledge, and the many new practical ways for thyroid patients to feel at their best and reach and maintain optimal wellness. Over the past few years, I have refined the T4/T3 combination treatment protocol for hypothyroid patients who've had lingering symptoms of fatigue and depression. I have learned more about the importance of the ratios of the two hormones for maximum benefits. In this new edition, you will learn how using compounded slow-release T3 instead of synthetic T3 will allow your doctor to titrate the dose of T3 in a more precise way for curing your symptoms.

You will also learn more about the ongoing controversy concerning thyroid blood testing, how you can be easily misdiagnosed, and how to prevent this from happening.

Thyroid imbalance is in fact much more common than it was estimated to be a decade ago. Despite an increased awareness of how common thyroid imbalance is in our population, despite the many more books on thyroid disorders that are now available, despite the many articles published in health and women's magazines and on the Internet, and despite all the interest that

has been generated since the publication of the first edition, there is still more to be done with respect to educating both the public and the medical community on this truly hidden epidemic. It is my hope that this new edition of *The Thyroid Solution* will contribute to enhance knowledge on these issues and will help more people throughout the world.

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INTRODUCTION

In the space of a week a few years ago, I saw two patients, Stacy and Murielle, whose experiences ultimately inspired me to write this book.

Stacy came to me for a second opinion on her ailment, a condition called Graves' disease, which results in an overactive thyroid. She asked me to recommend a book for "civilians" dealing with the psychological and emotional aspects of thyroid disease. Stacy had already studied all the books suggested by the Thyroid Foundation of America, the principal patient resource organization for thyroid conditions. She had also browsed through the health and medicine sections of a number of large bookstores. Stacy had been suffering from her thyroid condition for four years, and the consequent mental and emotional symptoms had contributed to the collapse of her marriage and the loss of her job. She was determined to learn how her thyroid condition had affected her mind and how she was likely to feel in the future. Although I mentioned a number of scientific studies, I realized that I knew of no popular books directed at a general audience that addressed this important issue.

Shortly after Stacy's visit, I saw Murielle, a young psychologist who was suffering from depression. "My energy level is so low," she told me. "It seems like all I can do is just to try to stay focused because I'm tired. I want to work less, and I've come to dread doing really hard, complex cases with a lot of personality problems."

Although her background gave her some experience in dealing with questions of mind and mood, Murielle was unsure about the cause and cure of her own depression. Because she was aware that depression and tiredness could also be symptoms of a thyroid imbalance, she began to wonder whether her symptoms were thyroid-related. Unlike Stacy, Murielle turned out not to have a dysfunctioning thyroid gland. Instead, she was suffering from a brain chemistry disorder related to an imbalance of thyroid hormone levels in the brain. Although Murielle had tried several antidepressants, she wasn't able to regain fully her happiness, energy, and sense of overall well-being until she began taking a thyroid hormone medication in addition to an antidepressant.

Thus, even though Murielle did not have a thyroid condition per se, for her, thyroid hormone treatment along with an antidepressant was the solution for full recovery.

In the course of my treatment of her, Murielle asked me a number of good questions, among them where she could go to learn more about how the thyroid and the hormones it releases into the bloodstream affect the brain and nervous system, thus directly or indirectly altering mood, emotions, and behavior. Again, there was no book I could recommend that addressed, in layperson's terms, the intricate relationships among thyroid ailments, emotions, and thought patterns. My increasing awareness of the desperate need of patients like Stacy and Murielle to learn more about their condition compelled me to begin writing this book.

The intent of *The Thyroid Solution* is twofold. First, it aims to introduce readers to the many ways that the thyroid can affect brain chemistry. In recent years, scientists have made remarkable headway in showing how brain chemicals, such as the well-known neurotransmitter serotonin, can influence everything from mood to appetite. Yet even many physicians do not understand how essential thyroid hormones are to normal brain chemistry. It is time for thyroid hormones to be recognized as key brain chemicals, whose actions and effects are similar in many ways to those of serotonin and other neurotransmitters. These effects include relieving emotional states such as depression, as Murielle discovered, as well as aiding other communications between mind and body, including regulating metabolism, sexuality, fertility, appetite, weight, and mental clarity.

Second, this book aims to provide thyroid patients, as well as their partners, families, and friends, with useful, practical information that may help them understand and cope with the difficulties and emotional suffering induced by thyroid diseases. *The Thyroid Solution* details a mind-body program that will help you, the patient, halt the escalation of symptoms and become well again. It also teaches you how to work with your doctor to obtain an accurate diagnosis and to achieve and maintain an optimal thyroid balance, with treatment.

One in ten Americans—more than 20 million people—suffers from thyroid dysfunction. Thyroid hormone imbalance, along with its fraternal twin, clinical depression, may be the common cold of emotional illness. Yet most victims don't realize that thyroid ailments have *any* mental or emotional components. They just know that they don't feel like themselves—and haven't felt right for a long time. This book is directed to these individuals, and I am confident that it can help them regain their emotional health.

Addressing Conditions and Concerns

Like any organ in the body, the thyroid gland can be affected by a wide range of disorders—from the common and rampant condition called Hashimoto's thyroiditis, the leading cause of hypothyroidism (underactive thyroid), to rare

and unusual conditions such as Riedel's thyroiditis (a condition in which fibrous tissue replaces healthy thyroid tissue). The main function of the thyroid gland is to produce thyroid hormone, a crucial chemical that affects metabolism and other bodily functions. Thyroid hormone is also part of the brain chemistry mix that regulates moods, emotions, cognition, appetite, and behavior.

A complete home reference book on thyroid disease would describe in detail all thyroid conditions, both unusual and common. But that would leave little room to detail the hidden and often misunderstood effects of the most common thyroid hormone imbalances, which affect millions of people. For that reason, the main focus of this book is on conditions that result in the types of thyroid hormone imbalance most people are concerned about. Nevertheless, I have included useful information on various thyroid conditions, including goiters, lumps, thyroid cancer, thyroid eye disease, and many others. If you suffer from one of these conditions, this information will help guide you as you seek a diagnosis or receive treatment.

The Thyroid Solution also differs from many other thyroid books in its depiction of thyroid patients and their real-life challenges and concerns as patients have revealed them to me in my more than fifteen years of working with them and helping them to heal. This is the first book to explain the hidden suffering that many patients have difficulty expressing and the first to provide new ways of helping address and heal this suffering. It is my hope that their stories will help you identify symptoms of your own that you may have dismissed as unrelated to a thyroid condition. Further, their stories of regaining physical, mental, and emotional wellness may inspire you to find the answers and treatment you need.

How You Can Use This Book

Part I of *The Thyroid Solution* describes the emerging knowledge about the thyroid-mind connection and how thyroid imbalance is likely to affect not only your physical health but also your mood, emotions, and behavior. It highlights the types of thyroid conditions that could result in a thyroid imbalance and outlines their potential effects on your emotional and physical health. Here you'll find out how to recognize hypothyroidism (underactive thyroid) and hyperthyroidism (overactive thyroid) and work with your physician to obtain the proper diagnosis. **Part I** also shows you how neuroscientists have come to view the thyroid gland as an "annex to the brain," since the brain uses thyroid chemicals for a wide range of brain functions. You will also learn how dealing with stress, maintaining a healthy and stable mood, and coping with life depend to a great extent on whether the thyroid functions properly and on whether the right amount of thyroid hormone is properly delivered and dispersed in the brain. Stress and thyroid imbalance go hand in hand: thyroid imbalance affects your perception of stress, and stress can trigger an imbalance. This relationship between the

thyroid, the immune system, and brain chemistry is intricate, and stress management is important in preventing flare-ups of thyroid imbalance. You will learn how the effects of thyroid imbalances are both physical and mental, although many physicians tend to focus only on the physical effects. You will also learn the many deplorable reasons why thyroid imbalances often remain undiagnosed and misdiagnosed. One reason is that patients suffering from a thyroid imbalance often have symptoms of mood disorders and anxiety and therefore may be misdiagnosed as depressed or anxious. A brain thyroid hormone imbalance can be caused by either a malfunctioning gland or a disruption in the way the hormone is dispersed in the brain. Either way, different types of depression and anxiety disorders can result. Thyroid hormone balance in the brain is crucial for maintaining stable mood, emotions, and behavior. Thyroid hormone can be used as a bona fide antidepressant. When natural or synthetic forms of the hormone are administered in the right dose along with certain antidepressants, almost miraculous mood-boosting effects may result. This can be especially true for people who are suffering from depression and have not fully responded to the conventional antidepressants, such as Prozac[®] and other selective serotonin reuptake inhibitors.

Part II presents in-depth information on how thyroid imbalances may affect your weight, your sex life, and relationships.

Because thyroid imbalances can intrude in your personal life and affect both your sex life and relationships with devastating effects, it is important for you to learn how to discuss these intimate effects with your doctor. Such effects do not necessarily end after the imbalance has been treated, so you will also learn how to cope with these problems and how to ask your partner for the support you need.

Part III is devoted to women's health issues, especially infertility and miscarriage, postpartum depression, and premenstrual syndrome and menopause. A thyroid imbalance will cause or intensify premenstrual syndrome during the reproductive years and will affect the way a woman feels at menopause. Forty million women will enter menopause in the next two decades, and a significant number of them will become afflicted with a thyroid imbalance. Nearly 10 to 12 percent of postmenopausal women will experience hypothyroidism. Because the symptoms of menopause and those of thyroid imbalances share many similarities, it is important for women to know when to suspect a thyroid condition and when to consider estrogen therapy.

Even minute thyroid imbalances can result in infertility, and the depression engendered by this infertility is often worsened by a thyroid imbalance. Women may also lose the desire for sex. I'll explain the interplay between the effects of infertility and thyroid imbalance on the mind and how you can

break the costly, vicious cycles generated by thyroid disease.

Part IV is the most directly practical section of *The Thyroid Solution*. It provides tools for you to determine how healthy your thyroid is and what to do if you do suffer from a thyroid imbalance. It also describes the most popular lab tests for measuring how much thyroid hormone you have in your system as well as the pros and cons of simpler self-diagnosis techniques. Here we also examine a major controversy in the field: can you have a thyroid imbalance even though your blood tests seem normal? You'll find an extensive summary of other medical conditions that may increase your risk of suffering from a thyroid imbalance in the future. These are the same conditions that you will need to watch for if you have already been diagnosed with a thyroid disorder and treated for it. And you will learn some of the most common problems that can arise during the course of treating both hypothyroidism and hyperthyroidism, from side effects associated with the use of conventional thyroid drugs to the many problems that may occur if you're being treated with radioactive iodine.

You will learn how to work with your doctor to obtain the most appropriate treatment for your condition. You will also learn how to prevent the memory lapses and other cognitive problems, as well as depression, that may persist after thyroid imbalances have been treated. These lingering effects of thyroid imbalances often haunt millions of people even after their blood tests have returned to normal with treatment, and you may need to be persistent in seeking a cure for them. Many of my patients have benefited from following the "Circle of Wellness" model I provide for recovering from the long-term effects of a thyroid imbalance.

Whether you suffer from hypothyroidism, thyroid-related depression, fibromyalgia, or lingering effects, if you have been searching for a way to alleviate your symptoms and regain overall health, an innovative treatment protocol that I have developed by combining two major thyroid hormones may well revolutionize the way you treat your thyroid. *The Thyroid Solution* is the first book for laypeople to discuss this treatment and to show its benefits.

Finally, I present a comprehensive plan for maintaining your thyroid's overall health. The many lifestyle choices you make every day can prevent or alleviate thyroid imbalances. We look at the optimal diet for thyroid health—a diet that, not coincidentally, also supports the health of other glands and organs. You'll also learn the most thyroid-friendly nutrients and the benefits of antioxidants and essential fatty acids in achieving and maintaining optimal physical and mental health. We pay special attention to the thyroid-specific mineral iodine and medications that can affect your thyroid. Further discussions focus on the benefits of exercise or regular physical activity, and why alcohol and nicotine are especially damaging to the thyroid.

The concluding chapter offers eight ways to educate doctors and laypeople

about the crucial links between thyroid, mind, and mood to benefit our country's overall public health. Patients need to begin asking for routine testing of their thyroids, and the inception of public screenings, like those that are becoming commonplace for cholesterol levels, would immensely benefit individuals and our population as a whole.

A Mind-Body Approach to the Thyroid

Ultimately, this book lets readers know what I try to emphasize to my patients: thyroid disease isn't a purely physiological disease—it is a biopsychiatric one, a mind-body ailment. Many thyroid imbalances can be controlled just as other mental disorders are now, by correcting brain chemistry (in this case, either too much or too little thyroid hormone) and restoring patients' wellness and peace of mind. Further, thyroid hormone can help depressed and anxious patients stabilize their brain chemistry when conventional antidepressants have failed.

If I had my way, everyone who had not been feeling at his or her best for some time would be routinely screened for thyroid imbalance. Those patients diagnosed with a thyroid imbalance who, after a reasonable period of treatment with thyroid hormones, didn't feel like their old selves again would be put on the mind-body program detailed in this book.

The key to correcting thyroid imbalances has changed from simply diagnosing and chronicling physical symptoms to concentrating on the emotional aspects of the disease. Thyroid dysfunction can inflict brutal blows to the brain and create changes that have long-term—sometimes permanent—ill effects on your health and peace of mind. When I treat the long-term emotional and mental effects of thyroid disorder, I use both medication and personal therapy—the best of laboratory-based and listening-based patient care. My intention with *The Thyroid Solution* is to bring groundbreaking information and hope to all those thyroid patients who still suffer from mental anguish that has not been sufficiently explained or understood by physicians.

PART I

THE EMERGING MIND-THYROID CONNECTION
**How a Tiny Endocrine Gland Intimately Affects Your Mood,
Emotions, and Behavior**

1

THYROID IMBALANCE

A Hidden Epidemic

Could you have an overactive or underactive thyroid and not even know it? Millions of Americans—and a high percentage of women in menopause and perimenopause (the decade or so before menopause during which hormonal, emotional, and physical changes begin)—do. A thyroid imbalance is not always easy to recognize. Physicians continue to argue whether a minimal thyroid imbalance affects mental and physical health. But the truth is that it does—and big time.

Do you have any of the following symptoms?

- Always fatigued or exhausted
- Irritable and impatient
- Feeling too hot or too cold
- Depressed, anxious, or panicky
- Bothered by changes in your skin or hair
- At the mercy of your moods
- Inexplicably gaining or losing weight
- Losing your enthusiasm for life
- Sleeping poorly or insomniac

Are you feeling burned out from having acted on an excess of energy for several months? Are you listless, forgetful, and feeling disconnected from your friends and family? Are people telling you that you've changed? Are you taking Prozac or a similar drug for mild depression but still feeling that your mind and mood are subpar? Or have you been treated for a major depression in the past five years?

If you suffer from more than one of these symptoms or answered yes to one or more of these questions, you could be one of the many people with an undiagnosed thyroid condition. Although some of these symptoms may seem

contradictory, all of them can be indications of a thyroid imbalance.

You could also be one of the many people who has been treated for a thyroid imbalance but still suffers from its often-overlooked, lingering effects—effects that may continue to haunt you even after treatments have presumably restored your thyroid levels to normal. If you've ever been treated for a thyroid imbalance, answer these questions:

- Do you still suffer from fatigue?
- Do you feel better but still not quite your old self?
- Do you have unusual flare-ups of anger?
- Are you less socially outgoing than you used to be?
- Are you less tolerant of the foibles of family and friends?
- Do you suffer from occasional bouts of mild depression?
- Do you have frequent lapses in memory?
- Are you often unable to concentrate on what you're doing?
- Do you feel older than your real age?

If you've had a thyroid problem in the past but still answer yes to one or more of these questions, it is quite likely that your symptoms are thyroid-related. You don't have to suffer any longer. *The Thyroid Solution* will show you how you can work with your physician to heal these lingering symptoms.

The Thyroid and the Mind

At any given time in the United States, more than 30 million people suffer from a thyroid disorder, more than 10 million women have low-grade thyroid imbalance, and nearly 10 million people with thyroid imbalance remain undiagnosed. Some 500,000 new cases of thyroid imbalance occur each year.¹ All of these people are vulnerable to mental and emotional effects for a long time even after being diagnosed. Incorrect or inadequate treatment leads to unnecessary suffering for millions of these people. But these are numbers. Behind the numbers are the symptoms and ravaging mental effects experienced by real human beings.

For the past two decades, we have witnessed a major increase in the recognition and detection of thyroid diseases. This stems in part from improved medical technology, which has led to the development of sensitive methods of screening and diagnosing thyroid disorders. It also stems from the increased public awareness that thyroid disease may remain undiagnosed for a long time and that even mild thyroid dysfunction may affect your health.² It is also likely that thyroid imbalance has become more common as a result of deleterious effects related to our environment. Recently, some medical associations such as the American Association of Clinical Endocrinologists have initiated public screenings for thyroid disease, much as cholesterol

testing has become available in shopping malls and other public places. At any given time, more than half of patients with low-grade hypothyroidism remain undiagnosed. In a thyroid-screening program involving nearly two thousand people that I directed in the Houston area,³ 8 percent of those tested had an underactive thyroid. Many people screened had never heard of the thyroid gland but rushed to be tested when they recognized that they were suffering many of the symptoms listed in the announcement of the screening. In a statewide health fair in Colorado conducted in 1995, 9.5 percent of the 25,862 participants who were screened for thyroid imbalance were found to have an underactive thyroid and 2.2 percent had thyroid hormone excess.⁴ The public's awareness of thyroid disease was boosted by press reports about former president George Bush and his wife, Barbara, Russian president Boris Yeltsin, and Olympic track champion Gail Devers when they were diagnosed with thyroid disease. Thanks to these factors, people with unexplained symptoms are becoming increasingly likely to ask their physicians whether these symptoms might be related to an undiagnosed thyroid disorder.

As an endocrinologist who has focused his research, teaching, and patient care on thyroid conditions, I realized early on in my practice that taking care of thyroid patients was not as easy as I had expected. Treating and correcting a thyroid condition with medication may not always make the patient feel entirely better. I discovered that to care fully for my patients, to help them heal completely, I had to treat their feelings as well as their bodies. If they didn't feel better even though their lab tests said they were cured, I learned to listen to them, believe them, and work with them to help them become wholly cured. In taking care of thyroid patients, the physician's role is not merely to address physical discomfort, test the thyroid, and make sure blood test results are normal (indicating normal amounts of the various thyroid hormones in the bloodstream). Addressing the effects of thyroid disorders on the mind, helping patients cope with their condition, and counseling them sympathetically are equally important.

Many physicians treat dysfunctioning thyroids, but few of them listen to the person attached to the gland. They concentrate on the blood tests, and once your lab results become normal, for these physicians your case is closed. Yet you may go on to suffer for years from a variety of physical and mental symptoms left over from the thyroid imbalance. Research has shown that patients with thyroid imbalance continue to have symptoms even after their thyroid hormone blood levels have become normal with treatment.⁵ Physicians should be treating the still-suffering patients in a more comprehensive way for as long as it takes for the mental effects to subside. The reality today, however, is that millions of patients suffer needlessly while their doctors continue to treat thyroid dysfunction as a simple physical disorder rather than what it is: a complex blow to the body and brain.

In general, primary care physicians have not been adequately trained to detect and manage thyroid disease and may lack the expertise needed to diagnose and treat a wide range of thyroid disorders.⁶ They also receive little

teaching on the effects of thyroid disease on mental health or on understanding the interplay between the mind and the thyroid.

The majority of practitioners of internal medicine and family medicine complete their residency without having had some form of training in endocrinology (the field of hormones). When they leave their training programs, they have inadequate knowledge of thyroid disorders and inadequate experience in diagnosing and treating these disorders. As a consequence, they seldom look for subtle indications of thyroid disease.

Often a primary care physician ignores the thyroid gland in a routine examination and fails to examine the gland by touch. Yet the simple touch examination, or palpation, of the thyroid gland is quite important in finding clues to the presence of thyroid disease. Often physicians are not taught how to palpate the thyroid gland during their training. Many physicians would admit that they were never taught the right way to examine the thyroid gland and do not do the exam routinely in their practice.

Because both the physical and mental symptoms of thyroid disease masquerade as signs of many other illnesses, getting the proper diagnosis can sometimes take a long time. Often symptoms are misdiagnosed and mistreated. Until patients find the right doctor, they are left alone to deal with devastating effects, which may include depression or even upsetting changes in personal behavior. Thyroid imbalance can quickly escalate into a destructive brain chemistry disorder—as powerful and pervasive as major depression, an anxiety disorder, or manic-depression.

Once the brain has been denied thyroid hormone or oversupplied with it because of thyroid disease, it takes a long time to recover. If the symptoms are ignored, they can intensify. A vicious cycle occurs wherein the patient gets depressed, the thyroid disease worsens, physical and emotional effects multiply, and mental health suffers further. This cycle is not widely understood or recognized, and many physicians do not know how important it is to halt the cycle—or, indeed, *how* to halt it.

To understand how we got to this sad state of affairs, it is instructive to take a look at how perceptions of the thyroid and knowledge of its function have evolved over the past century.

Changing Views of the Thyroid

The Swiss artist Arnold Böcklin (1827–1901) painted a portrait of a woman who appeared quite depressed. Her unsmiling face was sad and lifeless, and her eyes had a detached look. The most striking thing about her appearance, however, was that the front of her neck was swollen. The swelling was so evident that Böcklin drew attention to it with his use of color and lighting. As a layman, he recognized that she had a physical illness and that she was depressed, but it is doubtful that he made a connection between her thyroid and her depressive state. In fact, we did not begin to understand this connection until the late nineteenth century.