

Chapter 2

Metabolic Rehabilitation

METABOLIC REHABILITATION (REHAB) IS A process in which a patient gets control of, or eliminates, all the factors that are impeding her metabolism. We want to emphasize, however, that the process is *not* haphazard; it's highly organized and systematic.

When we guide patients through metabolic rehab (as does any clinician who helps patients through a rehabilitation process), we take numerous measurements of the patients' metabolic status at fairly close intervals, say every one to two weeks. We post the patients' scores from the measures to line graphs. It's the graphs that give us power and precision in guiding the patients to full recovery. Without the measures, and without the graphs, we wouldn't be practicing rehabilitation.

An important measure we use with every patient is her estimate of the severity of her symptoms. In *Chapter 3*, we guide you through setting up your own system for monitoring your symptoms, and we show you how to create your own line graph. Unless you monitor a large number of symptoms, you can use a single graph. Figure 1 is an example of a patient's line graph.

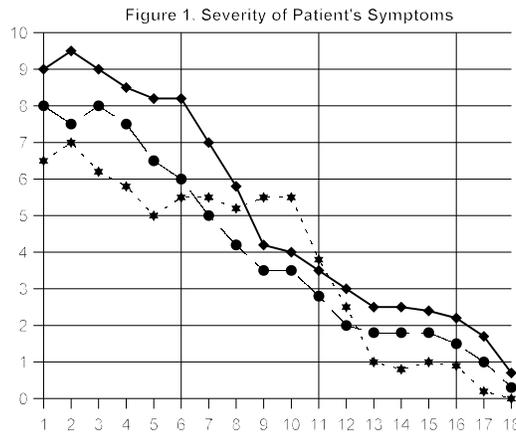
When you choose the symptoms you want to free yourself from, and you create your monitoring system including a line graph, you'll be set to do your own simplified version of metabolic rehab. As you progress through your treatment, you should measure the severity of your symptoms, either weekly or biweekly, depending on the form of thyroid hormone you may be using. You should measure the symptoms at regular intervals, and each time, post your scores (one score for each symptom you're measuring) to your line graph. Post it as a small dot, triangle, square, or other such symbol. Or you can use different colors for the different symptom lines.

As the dots or other symbols accumulate on the line graph, draw a line through those that refer to the same symptom (as in

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Figure 1). This will create what we call a “trend line.” The trend lines on your graph will show you how your treatment is progressing. The lines are your most dependable source of information during your metabolic rehab process.

By using the lines, you’ll know whether your treatment is working, and if so, how well it’s working. With this information, you can make informed decisions about what you must do next to achieve your goal of optimal metabolic health. Your target is to be free from symptoms of hypometabolism. The trend lines will show you how far on or off target you are. If you’re off target, you can readjust your aim, and by doing so, you can systematically guide yourself to the bull’s-eye—being symptom free.



As we said, *Chapter 3* shows you how to set up and use a graph. In this chapter, though, we focus on two other things: selecting the symptoms you’ll monitor, and the metabolism-slowng factors you may need to correct or control to achieve and maintain metabolic health.

WHAT YOU’RE TO MEASURE

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Crucial to improving your metabolic health, as we explained in *Chapter 1*, is being clear on what symptoms of hypometabolism you suffer from. In Table 2 of *Chapter 1*, we list symptoms common to hypometabolic patients, especially those who are hypothyroid or thyroid hormone resistant. List the symptoms you have in the order of their severity. Place more severe symptoms highest on your list.

Be aware that the list in Table 2 of *Chapter 1* doesn't contain all possible symptoms of hypometabolism. You may have some rare symptom of sluggish metabolism that isn't in the list. Over the years, we've occasionally been surprised when patients going through metabolic rehab tell us about symptoms that improved for them—symptoms we had never imagined were caused by slow metabolism. For example, a patient of mine (JCL) told me that for years, he'd blinked so often that it was dangerous for him to drive a car. After he began improving during his metabolic rehab, the blinking ceased.

You can include any symptom you would like to be free of, but if you monitor too many, graphing the severity scores can be unwieldy. If you want to monitor more than four to six, you would best make two graphs and divide the symptoms between the graphs. For most patients, however, monitoring the most bothersome four to six symptoms works well. This is especially so if the symptoms are among the classic ones for hypothyroid or thyroid hormone resistant patients: fatigue, widespread pain, muscle stiffness, poor memory and concentration, depression, nonrestful sleep, exercise intolerance, abnormal coldness, bowel disturbance, dry skin and hair, hair loss, and inability to lose excess fat despite exercise and a wholesome diet.

When you have your list of symptoms, make a severity scale for each. To learn how to do this, read the first section in *Chapter 3*. Also make a line graph for your symptoms (see “Graphing Your Symptom Score” in *Chapter 3*). Before beginning your metabolic rehab program, estimate the severity of your symptoms using your symptom severity scales. Then post the “baseline” scores for each

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symptom to your line graph. At this point, you're ready to begin your program of metabolic rehab. During your rehab, monitor the severity of your symptoms at regular intervals. Each time, post the symptom scores to your graph. You'll then be actively engaged in the process of metabolic rehab.

Responses to Treatment That Health Care Practitioners Can Evaluate

Measuring improvements in your symptoms isn't the only way for you to evaluate your progress. Health care practitioners can assess some responses to your treatment. Practitioners can be especially helpful if part of your metabolic rehab is the use of thyroid hormone. See *Chapter 7*, section titled "Tissue Responses to Thyroid Hormone that Your Therapist or Doctor Can Monitor."

METABOLISM-SLOWING FACTORS: WHAT YOU MUST CHANGE TO IMPROVE YOUR SYMPTOMS

People have poor metabolic health because they are affected by one or more metabolism-slowing factors. To achieve optimal metabolic health, they must correct or control the factors. They can do so by undergoing various therapies and adopting several lifestyle practices. The therapies and lifestyle practices patients use in their individualized treatment programs have one aim: to correct or control the factors that are keeping their metabolism too slow.

In this section, we briefly describe the most common metabolism-slowing factors that cause or contribute to poor metabolic health. We've described them here to help you identify which factors may be keeping your metabolism too slow. If you're to achieve metabolic health, you must identify the factors and correct or control them, while systematically monitoring the effects on your symptoms.

Most patients can do most of the therapies and all of the lifestyle practices without professional help. Of course, to use some

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therapies (such as treatment for low adrenal function), you'll have to have the cooperation of a health care practitioner. If you decide that you need thyroid hormone therapy, you must find a cooperative doctor to work with you. In this case, the best thing you could do for both yourself and your doctor would be to obtain a copy of *The Metabolic Treatment of Fibromyalgia* (see *Resources*). The book will guide you through metabolic rehab and be your greatest tool for success with the use of thyroid hormone.

If you can't find a cooperative doctor in your area, you always have the option of consulting with us long distance or coming to our Center for Metabolic Health in Boulder, Colorado (see *Resources*).

When you've identified the factors you believe are causing your hypometabolism, write a treatment plan that involves correcting or controlling the factors. Writing your plan is a way of clarifying what you must do in the way of therapies and lifestyle practices, and it's a way of committing to follow through with your plan. We can't overemphasize the importance of committing in writing that you'll follow through with your metabolic rehab (please read our final word in this book, *Chapter 17*). Your written plan might look something like the top of page 42.

In the remainder of this section, we briefly mention the most common metabolism-slowng factors. We also point you to the other chapters where we explain how the various factors contribute to poor metabolic health and how to correct or control them. Reading the chapters should give you enough information to understand what you must do to free yourself from the influence of these factors so that you move closer to metabolic health.

Here are the nine most common factors that cause hypometabolism. It's important to remember that the first one can cause or influence many of the others.

*My Treatment Plan**

- 1. Eat no sugary foods. Instead, eat vegetables, fruits, lean meats, and only a small amount of grains. Also drink 8 glasses of purified water each day.*
- 2. Walk vigorously for 20 minutes once every day. Before walking, do my stretching regimen for five minutes. When I return from walking, do each of my toning exercises.*
- 3. Take all of my nutritional supplements each day.*
- 4. Take my thyroid hormone dose every day when my stomach is empty.*
- 5. Each Wednesday & Saturday, monitor my symptoms and post the scores to my graph.*
- 6. If my symptoms aren't improving enough, find and correct or control any obstacles that are holding up my progress.*

** I commit to following this treatment plan. The benefits of achieving optimal metabolic health are worth it!*

*Mary Connelly
October 6, 2002*

1. Under-Regulation by Thyroid Hormone

The two most potent and common metabolism-slowng factors are hypothyroidism and thyroid hormone resistance. If one or both of these are causing your hypometabolism, you'll need to undergo safe and effective thyroid hormone therapy. (See *Chapter 7*.)

2. Too Little Cortisol

Having too little cortisol can cause symptoms that markedly overlap those of too little thyroid hormone regulation. The idea that cortisol and thyroid hormone deficiencies go hand-in-hand has been championed by eminent physicians such as Dr. William McK. Jefferies^[104] in the U.S. and Dr. Barry Durrant-Peatfield in the U.K.^[219] If your doctor isn't familiar with their point of view, we strongly recommend the books each has published that deal with the subject. In our experience, cortisol deficiency is common among hypothyroid and thyroid hormone resistant patients, and their full recovery depends on correcting the deficiency. (See *Chapter 8*.)

3. Sex Hormone Imbalance

Sex hormone imbalance can complicate the symptoms of hypometabolic patients. Thyroid hormone powerfully regulates sex hormones in men and women, and imbalances of the hormones are common in hypothyroidism and thyroid hormone resistance. Age-related changes, however, also alter the balance of sex hormones, and controlling the resulting symptoms can be important to metabolic health. (See *Chapter 9*.)

4. Nutritional Deficiencies

Nutritional deficiencies are also a common cause of hypometabolism. When a patient's symptoms are caused, or complicated, by these deficiencies, she must correct them before she can achieve optimal metabolic health. And, if the patient takes thyroid hormone, nutritional supplementation is necessary. (See *Chapter 5*, section titled "Vitamins and the Use of Thyroid Hormone.")

5. Unhealthy Diet

An unwholesome diet causes hypometabolism as commonly as do nutritional deficiencies. Consuming refined carbohydrates causes blood sugar irregularities in many people, and as a result, their energy metabolism is impaired. Fatigue and listlessness aren't the only results of the impaired energy metabolism; excess muscle ten-

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sion and pain also commonly occur.

Some food constituents can worsen chronic aches and pain. Too high an amount of arachidonic acid in foods can do this; so can the artificial sweetener aspartame, and the flavor enhancer monosodium glutamate. (See *Chapter 4*.)

6. Chemical Contaminants

Chemical contaminants can be the major factor responsible for a patient's poor metabolic health. We mentioned above the sweetener aspartame and the flavoring agent glutamate. These are powerful nervous system stimulants that appear to have toxic effects on many of the millions of people who ingest them in massive amounts. We consider them chemical contaminants. Preliminary evidence suggests that some people's fibromyalgia remarkably improves by giving up these additives (see *Chapter 4*, section titled "Aspartame").

Most people can give up aspartame and glutamate, but all of us have trouble avoiding other chemical contaminants. Some tough ones to avoid that can impair thyroid function are chlorine, dioxins, and PCBs. The best we can do is reduce our intake of these contaminants to as low a level as possible. Doing so is crucial to achieving optimal metabolic health. (See *Chapter 12*.)

7. Low Physical Fitness

Ancient medical texts described the symptoms of hypometabolism suffered by people who were sedentary and had low physical fitness. Modern people are just as susceptible to hypometabolism from too little physical activity. (See *Chapter 10*.)

8. Untreated Physical Problems

Many people go about their lives tolerating physical problems that could be relieved with effective physical treatment. These physical problems can strongly contribute to hypometabolism. This is especially true of myofascial trigger points and spinal subluxations. They contribute to hypometabolism mainly by the volleys of un-

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pleasant nerve impulses they send into the spinal cord and up to the brain stem and brain. These impulses often disturb the patient's sleep and contribute to her chronic fatigue and low pain threshold.

Muscles with impaired energy metabolism often form pain-referring trigger points. If the patient is hypothyroid, and all her muscles are hypometabolic, trigger points may form in many of her muscles. Because of the slow muscle metabolism, her trigger points will be resistant to therapies that otherwise would quickly eliminate them. Often, after metabolic therapy normalizes the patient's muscle energy metabolism, trigger points in the muscles persist and continue to refer pain. They can be self-sustaining and don't spontaneously clear up. Only effective physical treatment will eliminate them. In such cases, then, getting physical treatment is a part of taking advantage of increased metabolic capacity (see section below).

We explained the importance of physical treatment for fibromyalgia patients in the *Journal of Bodywork and Movement Therapies*.^[137] What we wrote there also applies to other hypometabolic patients, as we explain in *Chapter 13*.

9. Troublesome Drugs

It's unfortunate that some of the drugs intended to make life easier for people often make it harder by causing or contributing to hypometabolism. For many people, achieving metabolic health requires giving up some drugs that are impediments. (See *Chapter 15*, section titled "Troublesome Drugs.")

TAKING ADVANTAGE OF YOUR INCREASED METABOLIC CAPACITY: ESSENTIAL PARTS OF METABOLIC REHAB

If you're hypothyroid or thyroid hormone resistant, you'll most likely improve somewhat by merely taking a high-enough daily dose of an effective thyroid hormone product. But limiting your treatment regimen solely to the use of thyroid hormone would be a costly mistake.

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Thyroid hormone is the most potent regulator of metabolism. But—and this “but” is crucial to understand if you’re to enjoy even moderate metabolic health—it must work synergistically in the body with a host of other metabolism-regulating influences: constituents and effects of a wholesome diet, a wide array of nutrients, the effects on body and mind of vigorous physical activity, and practices that reduce the demands we place on our metabolism.

Because thyroid hormone benefits us most only when it acts synergistically with all these other influences, we often advise patients using thyroid hormone: Take advantage of the increased metabolic capacity the hormone provides, and doing so will bring the improvement in your health that you want.

Taking advantage of the increased metabolic capacity that thyroid hormone provides is largely a matter of engaging in several lifestyle practices. The practices include eating a wholesome diet (see *Chapter 4*); taking nutritional supplements (see *Chapter 5*); doing toning, stretching, and aerobic exercises to tolerance (see *Chapter 10*); taking time for recreation and relaxation; and abstaining from the use of metabolism-slowng drugs (see *Chapter 15*, section titled “Troublesome Drugs”).

We mention these practices only briefly here because we’ve included information on them in different parts of the book. If you’re having trouble practicing them, we encourage you to read the chapters that deal with each.

One shouldn’t feel that the need to engage in these lifestyle practices is a liability uniquely imposed upon her. More accurately, one would feel that the practices are a tariff imposed on anyone who wants to enjoy optimal health. There’s some price to pay regardless of choosing poor or optimal metabolic health. The formula is simple and straightforward: Those who don’t regularly engage in the lifestyle practices don’t enjoy optimal metabolic health—whether or not they take thyroid hormone.

The lifestyle practices, of course, interact and depend on each other. Consider nutritional supplements. If you haven’t taken them before, you should immediately start. Doing so can increase your

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metabolic capacity enough for you perceive it! But you shouldn't stop there. Nutrients interact with other metabolism-regulating influences. Exercise to tolerance is an example. Nutritional supplements can enhance most people's ability to exercise, and by exercising, they capitalize on the increased metabolic capacity the supplements provide.

Patients Likely to Stay in Poor Metabolic Health

Through our years of practice, we've made some observations that are worth noting here. Some patients who've consulted us were doing everything wrong in terms of lifestyle. They ate the worst traditional American diet, took no nutritional supplements, were thoroughly sedentary, and used conventional prescription and over-the-counter drugs liberally. Those who wouldn't drastically change these lifestyle practices had completely unsuccessful results with metabolic rehab.

Eventually, we learned to quickly spot the people who decline to cooperate in their own care. Before we give up on them, we encourage them, nudge them, entice them, and then warn them of the disastrous results they face by refusing to adopt a health-inducing lifestyle. We regret to say that some simply won't do it.

So, after a lot of effort on our part, we terminate our professional relationship with these patients. We do so because we sympathize with the view of psychologist Andrew Salter. He wrote of such patients:

I explain to them that my appointment book is like a life raft. There is room for only a limited number of people, and I do not intend to waste my time trying to convince any of the bobbing heads around me to get on board. There are others drowning who are only too happy to cooperate in their rescue.^[399,p.69]

We lament eliminating even a single patient from our practice, and see it as a tragic loss of opportunity for another human being to come back to life from poor metabolic health. But we don't lock the door behind them on their way out. They're always welcome back when they commit to getting well.

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Patients Likely to Fully Recover Rapidly

Other patients who come to us for treatment have been doing everything right in terms of lifestyle. In their quest for relief, they've stuck to a high quality, wholesome diet supplemented by most every vitamin, mineral, and trace element. They've exercised despite fatigue and pain, and take practically no drugs. Some have done this for as long as twenty years.

When these patients begin metabolic rehab, they add to their daily health regimen the proper form and dose of thyroid hormone. Almost always, they *rapidly* and *fully* recover their health. We love to meet these patients because we know they stand the best chance to quickly be completely well.

Getting Well Merely Through Lifestyle Practices

In our years of practice and research, we've encountered a few patients who recovered solely through making lifestyle changes. Unfortunately, these individuals are rare.

We hasten to add, however, that we've seen patients who've made lifestyle changes that did improve their general health and did reduce the severity of their symptoms. And without making those changes, patients with poor metabolic health will get less than satisfactory results from thyroid hormone. But, without appropriate thyroid hormone therapy added to the lifestyle changes, most patients will be unable to get well.

We recently wrote the chapter on fibromyalgia for the 3rd edition of *The Textbook of Natural Medicine*.^[293] This authoritative textbook is edited by the eminent naturopathic physicians and educators Dr. Joseph Pizzorno and Dr. Michael Murray. To make the content of the chapter consistent with the current scientific literature on fibromyalgia, we spent months reviewing the published scientific studies.

During this research, we reviewed the studies on different types of treatments for fibromyalgia and chronic fatigue syndrome. What we found was that exercise, dietary improvements, and nutritional

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and herbal therapies enabled patients to improve somewhat—but in most cases, only slightly. Not a single study reported that any of these therapies enabled patients to fully recover from their symptoms.

Despite this evidence, Dr. Jacob Teitelbaum is currently advertising and reporting that patients can recover from fibromyalgia and chronic fatigue syndrome merely with the use of nutritional and herbal supplements.^{[400][401]} To support his claim that this approach enables patients to recover, he refers to his recently published double-blind, placebo-controlled study in which most patients recovered. It's important to note, however, as did Peter Warmingham,^[402] that in the study, almost all of the patients used thyroid hormone—a therapy that's essential for most patients to recover from fibromyalgia and chronic fatigue syndrome. Teitelbaum's study, then, didn't show that patients with these diagnoses recovered with the use of nutritional and herbal therapies; instead, it confirmed our published studies showing that patients can recover only when they use nutritional therapy *and* thyroid hormone.

So, long clinical experience and the scientific literature show what we reported in the *The Textbook of Natural Medicine*.^[293] Patients must make positive lifestyle changes to recover from fibromyalgia, but these lifestyle changes alone aren't enough. Most patients must also use the proper type of thyroid hormone in high enough doses. Never forget, however, that while the lifestyle changes alone aren't enough, they are *essential* if most patients are to recover their metabolic health.

SUMMARY

To achieve metabolic health, you must identify the symptoms you want to free yourself from. To improve your symptoms, you'll need to use therapies and lifestyle practices that correct or control the factors keeping your metabolism too slow. Identify the factors you believe are causing your hypometabolism and then write out your treatment program for correcting or controlling the factors.

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Commit to follow through systematically with your regimen of metabolic rehab. This means monitoring the severity of your symptoms regularly, and adjusting your treatment regimen as needed so that you gradually eliminate your symptoms and achieve optimal metabolic health. If you're using thyroid hormone, when it increases your metabolic capacity, be sure to capitalize on the increase with lifestyle practices such as exercising to tolerance.

We want to emphasize an important point: Merely reading this book and making slapdash efforts to improve your health by using some of the information is likely to give you quite disappointing results. You're likely to achieve optimal metabolic health only if you use the entire system of metabolic rehab—monitoring your symptoms regularly and graphing your severity scores. With that in mind, let's now turn to *Chapter 3*. There, we'll explain how to measure the severity of your symptoms, and how to post the severity scores to line graphs.