Food Allergy and Gluten-Free Weight Loss

Control Your Body Chemistry Reduce Inflammation and Improve Your Health

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Menu for a Quick Start

Perhaps you want to slim down or decrease your inflammation *now* and don't have a lot of time to read this book. Here's a reading menu and a how-to menu so you can easily start in your own way.

READING

If you would like to be able to implement the healthy eating plan presented in this book now and understand it later, read "Putting Principles into Practice: Your Customized Healthy Eating Plan," page 71. If you have time for one more how-to chapter, read "Practical Tips for Success," page 84.

If you have been disappointed with the results of previous weight loss diets and want to know why they failed and why this one will succeed, read "The Problem with Diets," page 15. For more answers to the "why?" question read "What Determines Our Weight?" page 22.

If you want a brief explanation of the physiology of how this healthy eating plan can help you, read "The Principles of Glycemic Control Weight Loss," page 26, and "Inflammation is Part of the Problem," page 33. For a more in-depth understanding, read "Control Your Hormones to Control Your Hunger, Weight, and Inflammation," page 36, and possibly eventually read the whole book.

WHAT TO DO

Make a decision. Think about why you want to try this eating plan. List your reasons and personal pros and cons. Make a deliberate decision and keep your list where you can easily see it.

Wrap your mind around planning, shopping, and doing a little cooking. Even using this quick-start menu, it will take a little work to get started on your eating plan. However, this eating plan will not involve hunger or deprivation and, with the increased energy it should give you, the work will not be burdensome. Make a mental commitment to planning what you will eat on a weekly basis (for meal and snack ideas see pages 102 to 158), shopping for the foods you need, preparing snacks and probably a lunch to take along with you when you leave home, and doing a little cooking.

Just do it! To start your healthy eating plan, here is a "most important" list of things to do. These will stabilize your hormone levels and allow you to burn fat.

1. **Every morning eat a linked-and-balanced protein-containing breakfast** as early as you can, hopefully within the first hour after arising.

2. **Eat protein-containing snacks three times a day**, mid-morning, mid-afternoon, and at bedtime. They don't have to be large, and after your blood sugar and insulin lev-

els stabilize, you can simplify snack-packing by having an apple instead of a multi-food snack.

3. **Eat linked-and-balanced meals.** Try to have carbohydrates which are low on the glycemic index as much as possible. Keep your carbohydrate intake at or below two units (30 grams at 15 grams per carbohydrate unit) per meal and balance it with the same or a greater number of units of protein (7 grams per protein unit). Add a little fat (if the protein food doesn't provide some) and enough additional protein and vegetables to satisfy your hunger.

4. **Think nutrients.** Eat plenty of the anti-inflammatory foods listed on pages 262 to 264 and consider taking a supplement which provides general nutritional support as well as the nutrients most important for control of insulin levels and inflammation. See page 90 for more about this.

5. **If you have an apple shaped body, you are over-producing cortisol.** This is the root of your problem. Controlling your blood sugar and insulin levels will help your cortisol level, but you might also consider taking a supplement[1] such as Relora™ to ease your way by addressing the cortisol problem directly, at least during the early weeks of your healthy eating plan. See page 90 for more about this.

6. **Do some moderate exercise** or brisk activity. Intense or prolonged exercise, especially without food, can cause your body to hold onto fat and burn muscle, which will decrease your metabolism and make weight loss more difficult. See pages 265 to 268 for more about exercise.

7. **Listen to your body** and use your good common sense to decide what is best for you.

To your health! That's what this is all about.

[1] Although Relora™ comes recommended by a holistic M.D. whose medical expertise I trust, you are an individual. Consult your health care practitioner for personal advice about changing your diet and taking supplements. This book is meant to be used for education, not to be taken as medical advice.

Grandma

My grandmother could have used this book. Grandma Jiannetti, who died when I was six months old, was described to me as five-by-five – five feet tall and five feet wide. (Judging from the pictures, such as the one below of her with my dad, maybe her width was exaggerated). When my parents traveled to Italy for the first time when I was 14, they met her brother, Pietro Savioli, who was six-by-three, literally. Grandma, her brother, and several members of my paternal extended family had and have what family members call "the Savioli body type."

My mother used to say, "Grandma was big, but my, how she could move." Then she would describe the sound of her rapid footsteps and how quickly she covered ground when she walked. My father told stories about how she could hoe a row of vegetables with lightning speed. He described her bending straight from the waist to wrap and tie bunches of the Paschal celery which was the family's cash crop. She could wrap several bunches in the time it took him to do one as he worked with her when he was in his teens.

Not only did Grandma work hard on the family farm, she did everything else vigorously because of her personality and perhaps also because she had so much to do. My father was born later in her life. His sister, Louise, was fifteen, and because Grandma needed to get back to the fields to work, my aunt left school after the eighth grade to take care of my father. Although my aunt was a very intelligent woman and wanted to attend high school, she never seemed to regret having given up her personal opportunities to help raise my father.

I remember hearing a conversation between my mother and Aunt Louise when I was young. My mother said that Grandma was stubborn. My aunt said, "No, she just had determination." Determination, along with a dedication to hard work, is very much a part of the Savioli personality. Grandma, in her "determination," didn't let anyone push her around. When a salesman came to the house, she would open the door, say, "No speak-a the English," and slam the door in his face. She was an independent thinker, and some things just had to be done her way.

However, the most significant characteristic of the Savioli personality was and is a passionate love for family. When my father's family moved from the coal mining country of southern Colorado to the Denver area to farm, Grandma insisted that they live near

a school so her children could receive a good education. They bought a parcel of land with a hundred-year-old farm house just three blocks from a good primary school.

When I was born, Grandma was dying of cancer. In those days, it was thought that if a person were told that she had a terminal illness, she would give up and die quickly. Thus, nobody told her what she had. My mother said that Grandma's greatest joy would have been to hold me, her newborn granddaughter, in her arms. Unfortunately, she never held me because she was afraid that she would give me her illness. Instead she sat by my cradle and rocked me while singing to me in Italian.

When my father was dying of cancer many years later, he became anemic and the doctors suggested that blood transfusions would give him more energy. I told him that I wanted to donate blood as a way of giving back just a little to him for his lifetime of love and hard work for me. He told me that he had said the same thing to his mother years before, and she told him to pass the love on to his children instead. My dad said that he wouldn't take blood from me because I needed my strength to keep up with my two young boys. (My younger son, John, was a very frisky two-year-old at the time). He told me that the best way I could thank him would be to pass on the legacy of love to his two beloved grandsons.

This book is dedicated to the memory of my grandmother and father, two of the originators of the legacy of love, to my husband and sons who love me now as I love them, and to all readers of this book who have the Savioli body type. To you I say – you are important. You were put here for a reason and a purpose. There are people who need you, and/or there will be those who need you in the future. When you find it difficult to take charge of your health for your own sake, let your love for those who need you be your motivation. If you are an independent thinker with the Savioli "determination" as well as the body type, rest assured that this book will not dictate to you. It is designed to be flexible and therefore practical for those on special diets, and this flexibility allows you to personalize it to insure enjoyment of your food as well. You can use it to do things *your way* as you lose weight and improve your health.

The Problem With Diets

There is more to food than just nutrients. We derive pleasure and emotional satisfaction as well as physical sustenance from eating. The problem with most diets is that they involve a great deal of deprivation. In addition to sometimes making us overwhelmingly hungry, many weight loss diets leave us feeling psychologically and emotionally deprived, as if all pleasure vanished from our lives. That's a lot to give up.

A restrictive diet can be like a bossy, seemingly arbitrary teacher or parent wagging a finger and saying, "No!" to everything we want. The diet tells us what to do constantly and, at least as far as food goes, makes most of our decisions for us. Because eating is basic to satisfaction, even people without a Savioli-type mindset (i.e. those who are not super-independent thinkers) find this degree of control over their lives hard to endure for very long.

Hunger is the most significant problem with weight loss diets. If we muster up enough willpower, we can tolerate hunger for a few days, but soon it will seemingly overtake our lives. Because we are physically hungry, food will become an all-consuming passion. We will have difficulty concentrating on almost anything else because we will be thinking continually about how long it will be until the next meal and what we are or are not allowed to eat. A diet that regularly results in hunger is not a diet that anyone can live with for very long.

On some of the more reasonable diets, we may not actually be hungry all the time, but we may still feel deprived psychologically and emotionally. Some diets are nutritionally adequate but do not meet our needs for the pleasure which is normally derived from eating. The foods allowed on the diet may be boring, bland, or things that we hate to eat. We miss our favorite foods.

The most discouraging problem with weight loss diets is that many of them do not work long-term. We may lose weight and reach our goal, but as soon as we liberalize our eating habits, the pounds return. If the caloric restriction of a diet is extreme enough or if the diet promotes muscle loss, people may end up heavier than before they dieted because their metabolism has been reprogrammed to burn food more slowly and thus need less food. Unfortunately, most of the time weight loss diets fail to produce long-term weight loss.[1]

Many weight loss diets are time-consuming and complex. They require constant recording of the foods eaten. Then the calories, points, grams of carbohydrates, or fat grams consumed must be tallied up throughout the day to prevent exceeding one's daily allotment. I don't know about you, but my life is already too busy without adding "food math" to my to-do list!

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[1] For more about why low-calorie diets fail, see this page: http://www.montignac.com/en/la_methode_scientifique_echec_regimes_hypo.php

Most weight loss diets have relatively narrow prescribed lists of allowed or preferred foods. If people with multiple food allergies cross off all the foods they are allergic to from the diet's list, the remaining food may be nutritionally inadequate.

So what must we do to lose weight? A non-diet – an eating plan that is not overly restrictive, supplies all of our nutritional requirements and permits choices that respect our need for the pleasure and emotional satisfaction that should come from food. This plan must accommodate our food allergies or gluten-intolerance and be such that we can comfortably follow it as a routine part of our daily lives. Hunger and pleasure deprivation cannot be part of any eating plan we expect to be able to stay on for more than a few days. In addition, the eating plan must "work" and result in a healthy weight that is easily maintained permanently.

We must have a healthy eating plan that lets us do things our way, both psychologically and physically, and that controls our body chemistry to eliminate hunger and promote the burning of fat. It must put us in touch with our bodies so that we work with our physiology rather than against it. It also must still enable us to receive pleasure from eating.

Keep reading to discover a healthy eating plan that is tailored to YOUR needs. Find out how you can do it your way.

Do It Your Way

A strong will and determination are good. They make us independent thinkers who have ability to know truth from falsehoods. They enable us to choose right over wrong, even when our choice may not be popular. They impart the drive we require to do difficult things. Although I'm generalizing from a limited sample (my relatives, my pen-pal in England, and other heavy friends I have known personally and well), it seems to me that many with the Savioli body type also have the Savioli personality. The benefits of the personality greatly outweigh the disadvantages of the body type. The disadvantages of the body type are superficial and cosmetic (although if you get too heavy, it may adversely affect your health). The advantages of this personality have long-lasting positive effects that extend to those around you, even to future generations. When determination, even in its negative extreme of stubbornness, is balanced with love – love for others and yourself – you can accomplish great things. This chapter addresses how to harness your determination to improve your health so you have more energy to do what you want to do on a daily basis and even to help insure a normal-length life span in which to accomplish your deeper goals.

Everyone prefers to do things his or her own way. For a weight loss program to work long-term, almost all of us have a better chance of success if we are able to do things our way, both physically and mentally. Your body should be the *only* "boss" that tells you if you absolutely must or must not eat a certain food, when to eat, and how much to eat. If you are hungry, that is a signal from your body that your blood sugar is dropping, and you need to eat a small, properly balanced snack to prevent the consequences of low blood sugar (which can lead to fat deposition) no matter what the clock says about mealtime. With a healthy eating plan that lets you do it your way, you will not feel deprived of food enjoyment either. Feeling deprived and hungry are two factors that make it difficult to slim down, so enjoy your favorite foods! Learn how to do it, how to make or eat them in a more healthy way, and have them within the limits of your food allergies or intolerances.

YOU must be the one to determine WHEN and WHY to embark on a healthy eating plan. The motivation must come from you, and the timing must be right. As explained on page 41, an especially stressful time in your life may not be the time to start this program, especially if you will be discouraged if your weight loss is slow due to high levels of stress hormones. (Of course, there is no period of life that is completely stress-free). Make the decision to embark on this plan thoughtfully and write down your reasons for wanting to change your eating habits. List both pros and cons. Keep this list handy. Perhaps put a copy on your refrigerator, in your desk, and/or on your computer so you can refer to the list easily and often.

In the course of preparing to write this book, I reviewed over a dozen diets that promote the control of blood sugar and insulin levels and/or inflammation. One discovery I made was that there are no absolute prohibitions common to all of the diets. For example, while they all discourage the over-consumption of caffeine (no trying to live on coffee to lose weight!), most allow coffee with breakfast for those who feel they really want or need it. In *The Fat Resistance Diet*, Dr. Leo Galland, MD recommends drinking green tea for its anti-inflammatory and antioxidant effects.[1] His daily menus of meals and snacks list "Slim Chai Green Tea" as a beverage several times a day. [2]

Several of the diets prohibit the use of artificial sweeteners. However, in *The Glycemic Index Diet,* Rick Gallop uses them freely and even includes them in recipes.[3] In *The Insulin Resistance Diet,* Dr. Cheryle Hart, MD, a specialist in bariatrics (weight loss) reports that although the sweet taste of artificial sweeteners causes a slight release of insulin by the pancreas, this is not a problem unless the sweeteners are consumed without any food, such as in drinking a diet soda without food. She says that if diet sodas are taken with food so the insulin has something to work on, they will not send one's blood sugar and hormones on a roller coaster ride.[4] However a more recent publication offered on Dr. Hart's website says that patients are allowed to drink diet sodas without food.[5] I suspect that with time she has come to the conclusion that tolerance for diet sodas in regard to weight control is an individual matter.

Sugar is another controversial food which is absolutely forbidden in some of the books I read. All of the authors agree that is should not make up the high percentage of our carbohydrate intake that it does in the standard American diet, but some of them recognize that the need for emotional satisfaction can be as important as the need for physical satisfaction and allow sugar as part of a "controlled splurge." On the glycemic index, a measure of the actual effect a food has on our blood sugar, table sugar scores lower than refined white bread and most types of rice. Therefore, if a sugar-containing treat is eaten in moderation and balanced with protein, it can be a part of a healthy eating plan. However, if you are actually allergic to sugar or have problems with candidiasis, you may have to avoid it. Don't despair though. There are other delicious ways to sweeten foods. See pages 197 to 225 for recipes for sugar-free treats.

The only absolute on foods that you must avoid are dictated by your own body – by your food allergies and intolerances. All of the sources I read that mentioned allergies

[1] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 98.

[2] Although green tea is low in caffeine, it is not caffeine-free, and the total amount of caffeine in several cups of green tea can be more than in a single cup of coffee for breakfast. Dr. Galland moderates the caffeine by always having food consumed with the recommended green tea. See the recipe for "Caffeine-Controlled Green Tea" on page 229.

[3] Gallop, Rick, *The GI [Glycemic Index] Diet,* (New York: Workman Publishing, 2002), 27.

[4] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 96.

[5] Grossman, Mary Kay, RD, *Foods by Chance or by Choice*, (Free download from irdiet.com, 2008), 12.

(*The Fat Resistance Diet, The Insulin Resistance Diet, The Complete Idiot's Guide to Glycemic Index Weight Loss, Your Hidden Food Allergies Are Making You Fat,* etc.) said that eating an allergic food causes inflammation and the release of adrenal hormones which start a hormonal cascade leading to the promotion of depositing food as fat.[6] Therefore, the only absolute "no" you will hear will be from your own body if you are intolerant of certain foods. If you are reading this book, you have probably already learned to listen to that "no" so that you can avoid allergic or celiac reactions and feel well.

Rather than presenting only do-not instructions, a few of the books told readers to DO things that you would not expect to see in a diet book. They advised that feelings of deprivation have to be managed, and that a good way to do this was to have planned, controlled splurges.[7] One example given was to eat an ounce of good (not cheap) dark chocolate containing 60 to 70% cacao. (Do not do this if you are allergic to chocolate! Have a non-allergenic fun food splurge instead. See recipes for treats on pages 200 to 225). The carbohydrates from the chocolate were to be balanced with protein to prevent a blood sugar spike and the portion size controlled, but since chocolate is an excellent feel-good food because it raises levels of neurotransmitters, Dr. Cheryle Hart reports that controlled chocolate splurges help people continue and succeed on a healthy eating plan rather than give up due to feelings of deprivation.

Your body – your physical need for nutrition and food allergies or intolerances – and your pleasure needs, combined with the science in the next few chapters, will help you to determine what is right for YOU. After you have followed your healthy eating plan and listened to your psyche's and body's response to it for a while, you will be able to refine the plan to fit you even better. You will find that increased energy, improved sleep, and possibly how you feel if you abandon the plan for a meal or a day, will convince you that you are doing the right thing for your health. With the improved health that results from working with rather than against your body will come a healthy weight.

WHO IS IN CHARGE?

Who is in charge of your diet now? If you are an adult and your diet is influenced by your spouse or other family members, you may need to start cooking for yourself or enlist their help with your eating plan. Chances are, they want to keep you alive and healthy and will do what they can to help.

If you are living alone, it may seem as if you are the only one who could possibly be in charge of your diet. Thus, you may blame yourself for your weight problem, and

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[6] Rivera, Rudy, MD and Roger Deutsch, *Your Hidden Food Allergies Are Making You Fat,* (Rocklin, CA: Prima Publishing, 1998), 148-149.

[7] Beale, Lucy and Joan Clark, RD, CDE, *The Complete Idiot's Guide to Glycemic Index Weight Loss,* (New York: Alpha, 2005), 299, and Hart, Cheryle R, MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 107.

think that you overeat because you have a character flaw or no willpower. THIS IS NOT TRUE! Your body chemistry and the food industry may be causing you to overeat, or you may be eating a reasonable or low amount of food but your hormones are causing it to be deposited as fat while leaving you short on energy.

For those with food allergies, eating an allergic food, known or unknown, will cause a hormonal cascade that can lead to weight gain. It also can cause allergic cravings which drive you to overeat. When you eat a problem food, you have an immune response which often involves making antibodies (usually of the IgG4 or IgE classes) that mediate the immune response to the food. Eating that food again ties up some of the antibodies and decreases allergic symptoms. Thus, some people unknowingly manage their allergy symptoms by getting regular "fixes" from eating their problem foods. If you suspect that you are having allergic cravings or notice that some foods make you feel better, you may be allergic to more foods than you currently know, and you should pursue the diagnosis of potential new food allergies. See www.food-allergy.org/diagnosis.html for more about this. You must eliminate all of your allergenic foods from your diet to control inflammation and lose weight.

If you have problems with keeping your blood sugar levels stable, which is likely if you're overweight, your blood sugar-controlling hormones may be making you very hungry between meals, which makes it hard to not overeat. This is especially likely to happen if a meal contains a large amount of high glycemic index carbohydrate. (This is why many people are famished two hours after eating at a Chinese restaurant). This book will show you how to be the boss and take charge of your blood sugar-controlling hormones.

In addition to the allergic and hormonal influences of your own body, there is another player that may be controlling what and how much you eat. This player is doing it for profit, and you rightly may be angry when you learn about how its control is being exercised over you. If you or your non-allergic family members or friends eat commercially-made processed foods or eat in restaurants, the food industry may be making you overeat. Former FDA Commissioner Dr. David Kessler, MD exposes the manipulative tricks used by the food industry in his book *The End of Overeating.*[8] His message, in a few words and possibly oversimplified, is that commercially made foods are laden with sugar, fat and salt, making them hyper-palatable, and thus provoking an almost addictive response in some people involving opiate-like brain chemicals.

Furthermore, he reports that food can be so highly processed that it is almost pre-digested. If the food is mostly carbohydrates, your body's hormonal response will result in the energy from the food being stored as fat and will make you hungry for more very soon. While we may be aware that white flour and sugar are highly processed, processing to the point of near pre-digestion can also be done to protein foods. Kessler describes

[8] Kessler, David, MD, *The End of Overeating,* (New York: Rodale, 2009).

interviewing food industry representatives about the chicken served at Chili's Restaurants. The former president of Standard Meat, the company Chili's buys its meat from, told Kessler that the marination-by-injection process they used for the chicken "essentially pre-chews" the meat although it still looks normal. This reduces the need to chew, making it easier for diners to eat much more food than is needed before they realize how much they have eaten. [9]

YOU MUST TAKE CHARGE!

If you want to lose weight successfully and permanently or to control chronic inflammation, you must take charge! Do it your way! You don't have to be hungry or deprived of pleasure. As my grandma did with the door-to-door salesmen, say, "No." Don't let the food industry control you and trick you into eating highly processed foods. Eliminate all of your allergenic foods so reactions do not lead to allergic cravings or to wild fluctuations in your blood sugar control hormones that make you so hungry that you overeat. Using the information in the next several chapters, design your own healthy eating plan and thus take control of dietary factors that cause blood sugar and hormone imbalances that lead to weight gain. Use your healthy eating plan to elicit the desired responses from the hormones that control fat deposition and thus tell your body to burn fat rather than store it. YOU can be in control!

[9] Kessler, David, MD, *The End of Overeating,* (New York: Rodale, 2009), 69.

What Determines Our Weight?

What causes overweight? Conventional medicine says it is all a matter of how much you eat and exercise. If you take in more calories than you use, the surplus is stored as fat. Indeed, some doctors point a finger at the overweight patient and say, "It's all your fault." Although calories do count, they are not the only or the major determiner of weight. This reasoning of conventional doctors and the diets they prescribe rarely produce sustained weight loss, but they do a great job of producing guilt and feelings of inadequacy when we either cannot lose weight or keep it off.

If conventional doctors were correct in their reasoning, the much-attempted standard American weight loss regimens of calorie counting accompanied by exercise and the abundance of low-calorie, low-fat diet foods in the stores would have slimmed us all down. Instead, the prevalence of obesity in the United States has been growing rapidly for the last 40 years.

I believe that the true cause of overweight can be summed up in the following statement by Leo Galland, MD, a well-known and respected nutritionally oriented doctor who takes a holistic approach to the practice of medicine. He says, "Your weight problem is not a matter of will or discipline, but a chemical imbalance that, once corrected, holds the key to permanent weight loss."[1] This imbalance can be corrected by changing what foods you eat (probably not drastically if you are already on an allergy diet and therefore not eating processed foods), how you combine them, and when you eat.

Dr. Galland's statements carry the weight of authority; he has practiced medicine for over 30 years. In *The Fat Resistance Diet,* he supports his assertions with numerous references to articles in respected medical journals. His holistic and nutrition-oriented approach has put him ahead of his peers on discerning the real causes again and again.

So how did we arrive at this state of chemical and hormonal imbalance and overweight? As with many of our characteristics, both genetics and our environment and experience play a role.

NATURE: GENETICS

This book began with a story about my Grandma Jiannetti and her heavy-around-the-waist Savioli body type (i.e., an apple-shaped body). Since her brother and several descendents had or have the same shape, it seems that genetics plays a role. Weight gain and shape patterns are obvious in my own family. On my father's side, my heavy relatives are all big around the waist, taking after Grandma Jiannetti. On my mother's side,

[1] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 7.

most of my relatives are slim, and when the older women gain weight, it is in the hips. They have pear-shaped bodies.

Of the two body shapes in my extended family, the pear shape is statistically associated with little medical risk. Apple-shaped weight gain is associated with increased risk of cardiovascular disease, high blood pressure, and diabetes.

On a chemical level, apple-shaped people have higher levels of the adrenal hormone cortisol which negatively influences their ability to maintain stable blood sugar levels. (For more about this see pages 41 to 43). The healthy eating plan in this book addresses balancing blood sugar and insulin levels. However because of their inherited higher cortisol production, some apple-shaped people, under their doctor's supervision, my also benefit from using supplements to moderate their production of cortisol. (See page 90 for more information about these supplements).

A family history of type II diabetes is another genetic factor that can lead to overweight. People who eventually develop type II diabetes may have blood sugar regulation difficulties for years before they develop overt disease. However, if when they begin gaining weight (a symptom of blood sugar control problems) they take charge, follow an eating plan which controls blood sugar levels, and thus reduce the strain on their pancreas, full-blown diabetes might be averted.

Other genetic factors which influence our body size can be positive. Some people have thick heavy bones, large rib cages, and wide pelvises. At an ideal level of body fat, these people may be called "stocky," but their body type carries advantages. Those heavy bones are less likely to break in a fall, especially as bone density decreases with age. If you are musical, a large rib cage may allow you to sing opera or play a large wind instrument well and powerfully. A woman with a wide pelvis will appreciate her body type during childbirth, especially if the baby is large. So if this eating plan brings your body mass index (BMI) to a normal level and you still do not have the shape of a model, actor, or actress, be glad to be healthy again and accept your genetically determined shape for the advantages it offers.

NURTURE: ENVIRONMENT AND EXPERIENCES

Our environment and previous experiences also influence our weight. Some environmental factors are social. For example, each year in November and December, many of us attend family Thanksgiving dinners and holiday parties. During these months we are repeatedly put in social situations where we are surrounded by an overabundance of delicious foods. We don't want to offend our favorite aunt or employer's wife by turning down the food she has worked hard to prepare, so we almost feel forced to indulge a little. And who can sit at a baseball game without wanting a hotdog? We don't want to miss out on the fun, and in our past experience, a hotdog has been part of the fun!

If your allergies allow, these social situations are the time to plan ahead for a controlled splurge. Do not unnecessarily deprive yourself of experiences that add fun to life! However, you can plan ahead to limit portion sizes to what will satisfy but not stuff you. Also determine to balance whatever carbohydrate you eat with protein. If you are allergic to too many foods to indulge in the party goodies or a hotdog, planning ahead is even more important. Bring your own food, and try to make it something that you will really enjoy. Watching those around you eat delicious treats while you go hungry can make you so ravenous that it will be impossible to maintain control when you get home.

Television viewing can be another environmental trigger that leads to overeating. We tend to munch mindlessly while we watch TV. It is best to not come to your favorite program hungry. If you just ate, it's easier to ignore the food commercials, but if you are physically hungry, you will want to eat every food advertised. If you find yourself craving the foods displayed on TV and getting hungry, try a healthy snack which will stabilize your blood sugar level such as an apple or a handful of nuts. Do not take the whole bag of nuts back to the TV with you however, or you may eat more than you need to satisfy your physical hunger.

If your problem with watching TV is not actual hunger but rather than you have been in the habit of eating while you watch, consider starting a new TV habit. I enjoy doing needlework while I watch TV. Perhaps the best TV habit for weight loss is to do some exercise while you watch. Pedal a stationery bicycle (but not necessarily at break-neck speed) or do stretching exercises. See pages 265 to 268 for information about aerobics versus moderate exercise, which is actually the best way to burn fat, and is why you should not bicycle too hard for too long.

Past experiences can profoundly influence our weight; old eating habits can be hard to break. When you are tempted to slip back into old habits, look at the list you made of motivating reasons for embarking on a healthy eating plan.

Past eating habits may also have changed us in ways that promote overweight. Over-consumption of sugars and processed carbohydrates may have over-taxed your pancreas. Thus, you may have trouble maintaining a stable blood sugar level. If you have lost muscle mass due to past low-calorie dieting, your metabolism may be lower than it otherwise would have been. This can be overcome by building muscle, however. Eat plenty of protein and begin an appropriate exercise program to build muscles. (See pages 265 to 268 for more about exercise).

The final and most important factor that impacts our weight is chronic inflammation. Overweight and inflammation form a vicious cycle, but this cycle can be broken. Excess body fat contributes to inflammation and inflammation causes hormonal problems that promote further weight gain.[2] However, by addressing the problems of over-

[2] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 12.

weight and inflammation simultaneously, the cycle can be broken and both problems can be resolved. See pages 33 to 35 for more about this.

If you are reading this book, there is a good chance that you have been on a weight loss diet in the past. You have exerted more willpower and endured more hunger than any genetically thin person will ever understand. Now that you have read about the genetic and environmental factors that contribute to overweight in this chapter and about the food industry's manipulative practices in the last chapter, it is time to abandon self-recrimination over past dieting failures (most of which are due to the type of diet). Banish guilt, take charge, and move on. Have determination! Re-read Dr. Galland's statement at the beginning of this chapter. Copy it and put it on your refrigerator or add it to your list of motivations for changing your eating habits that you have saved on your computer or in your desk. You are not a failure; you are a valuable person. Your health is important. Move on and begin taking steps to correct the chemical imbalance which has caused to you to gain weight and/or led to inflammatory health conditions. You can do it!

The Principles of Glycemic Control Weight Loss

When we hear the word "hormones," our first thought is about sex hormones. However, the hormones discussed in this book are not sex hormones. An endocrine hormone is actually any chemical messenger that travels from where it is produced through the bloodstream to another part or parts of the body where it exerts its effect. Our hormones interact with each other to create a fast-acting chemical control system for our entire bodies. For weight control, hormones rule!

What happens when you eat a piece of bread? As you chew, an enzyme in your saliva begins breaking down the starch in the bread into single sugar units (monosaccharides). The digestive process continues in the stomach and small intestine and the monosaccharides that are released from the digesting starch are absorbed from the small intestine into the bloodstream. If the monosaccharide is glucose, it is ready to be used by body cells immediately. Monosaccharides other than glucose and also any protein we consume that is in excess of our protein needs for body building and repair are absorbed from the bloodstream into the liver. There they are converted into glucose to supply our cells with fuel. This glucose is released from the liver into the bloodstream, but the conversion process takes time so proteins and monosaccharides other than glucose (such as fructose) are not available to be used by our cells as quickly as glucose is.

The hormone **INSULIN** is needed for glucose to enter our cells and be used for energy. When the pancreas detects a rise in the glucose level in the bloodstream, it secretes insulin which allows glucose to enter the cells, and the level of glucose in the bloodstream returns to a pre-meal level. Glucose may be used by our cells for immediate needs or stored as glycogen (chains of glucose molecules) in the cells of the liver and muscles for future energy needs. The amount of glycogen we can store is limited, so within about two hours after a meal we will begin storing as fat any excess glucose over what we have used or saved for future use as glycogen. Glucose can be converted to triglycerides (the basic unit of fats) for storage by the liver. Insulin also allows glucose to enter into fat cells where it is converted to triglycerides and stored as fat.[1]

In an optimally healthy person, insulin secretion is correctly balanced with the amount of glucose entering the bloodstream from the small intestine and liver. In some people, however, the secretion of insulin is excessive. This results in an abnormally rapid drop in the blood glucose (also called blood sugar) level after a meal if the pancreas overshoots on insulin production. The result is too little glucose in the blood; this condition is called reactive hypoglycemia. It is hypoglycemia (low blood sugar) in response to a

[1] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 5; also www.montignac.com/en/la_methode_scientifique.php .

meal rather than as a result of a pancreatic tumor. Conventional medicine traditionally has not believed that reactive hypoglycemia is a significant problem. However, the person experiencing it may become weak, irritable, dizzy, or develop a headache. They will probably also become very hungry with an hour or two after a meal and crave sugar or starchy foods. Another dose of carbohydrates will start this cycle over again. Thus, appetite is out of balance with the body's actual need for food, and the glucose that is being driven out of the bloodstream and into the cells by the excess insulin will be stored as fat.

A high level of insulin also activates an enzyme called lipoprotein lipase. This enzyme catalyzes the production of triglycerides from any fatty acids (digested fat units in the form that is absorbed by the intestine) eaten in a meal. Thus, excess insulin promotes storage of any fat we eat by our fat cells rather than using it for fuel after our meal. In a person with normal insulin levels, any recently eaten fats could have been used for energy during the two hours after a meal. If insulin levels are high, dietary fat is more likely to be stored in the fat cells.[2]

In addition, high insulin levels in the blood inhibit the activity of the enzyme triglyceride lipase which breaks down stored fat for use as energy. Thus, if you have chronically high insulin, you cannot burn your own body fat![3]

If a person continually over-produces insulin, a state of insulin resistance may result in which insulin becomes less effective in getting glucose into the cells to be used for energy or stored. Since blood sugar levels do not drop as readily after a meal in a person with insulin resistance, the pancreas keeps secreting more insulin which becomes less and less effective in doing its job. Insulin resistance is a pre-diabetic state. It can result in weight gain and other symptoms which characterize metabolic syndrome such as high blood pressure and abnormal blood fat levels. Paradoxically, fasting or skipping meals can also cause insulin resistance, possibly by increasing cortisol levels.[4] (See page 41 for more about this).

Other hormones also affect the insulin-glucose balancing system. One such hormone is **CORTISOL**, which is produced by the adrenal glands. Some cortisol is present in our blood at all times; the levels follow a daily cycle, peaking between 6 and 8 a.m. and being lowest in the evening. The adrenal glands produce a spurt of cortisol when we encounter stress and must respond quickly to a crisis. This is known as the "fight or flight" response, and cortisol levels return to normal when the crisis has passed. However, chronic stress can result in chronically high cortisol levels. Chronically high cortisol can cause chronically high insulin levels (hyperinsulinism), which leads to weight gain. Cortisol can also deplete the level of the brain neurotransmitter serotonin which can

[2] www.montignac.com/en/la_methode_scientifique.php .

[3] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 5; and www.montignac.com/en/la_methode_scientifique.php .

[4] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 19.

result in difficulty in sleeping, depression, and anxiety.[5] This is how stress disrupts our sleep and makes us miserable and fat! I hope understanding it makes you feel better about it. It should because there are things you can do to minimize the effects of stress. (See below and pages 42 to 43 for more about this).

Cortisol causes a type of weight gain that is visibly different from over-all weight gain, namely the apple-shaped gain around the mid-section of the body. Here's the Savioli body type again! Some people are genetically pre-disposed to high cortisol levels which may explain why apple-shaped bodies tend to run in families.

Because insulin production increases cortisol production and cortisol production increases insulin production, bringing insulin levels under control can moderate cortisol production. Stress reduction and relaxation techniques are discussed in some glycemic control diet books as a way to help with weight loss.[6] Supplements may also be helpful, especially for those who are genetically predisposed to excess cortisol production.[7] (See page 23 for more about this). Phytonutrients in foods such as fruits, vegetables, nuts and seeds can also help moderate cortisol production.[8] See the superfoods list on pages 262 to 264 for foods that will help.

Body fat is not inert. It plays a role in the hormonal regulation of weight.[9] (See pages 43 to 44 for more about the hormones **LEPTIN** and **ADIPONECTIN**). Those with more body fat tend to have higher cortisol levels and are more likely to be insulin resistant. A rough test for insulin resistance can be preformed with a tape measure. A waist measurement of more than 35 inches for women or more than 40 inches for men indicates that it is likely that the person is insulin resistant.[10]

However, the good news about body fat and hormones is that as you lose weight, insulin resistance lessens, blood glucose levels are easier to keep stable, and weight loss becomes easier due to improved hormonal factors. In fact, Dr. Galland finds that many of his patients who achieve normal weight on the very healthy diets he prescribes maintain a permanent self-regulating normal weight due to the re-establishment of normal hormonal control of their weight.[11] Dr. Galland's focus is on the role of inflammation in weight problems and on hormones besides insulin such as leptin. These topics will be discussed in detail in the next chapter.

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[5] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 23.

[6] Ibid., 222-227.

[7] Ibid., 228-229.

[8] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 8 and Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 229.

[9] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 5, 26, 29.

[10] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 15.

[11] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 5.

Other hormone-like substances that affect weight include **EICOSANOIDS**. (These are not technically hormones because they act right where they are produced and last only a few seconds rather than traveling through the bloodstream). Barry Sears, PhD, was originally an eicosanoid researcher and became the author of the series of *The Zone* diet books. He espouses rigidly maintained ratios of protein, carbohydrate and fat at every meal to "enter the zone" of optimal eicosanoid production. His take on the how hormones influence weight is that insulin exerts its influence by determining whether good or bad eicosanoids are produced.[12]

A final chemical messenger that can affect your ability to lose weight is active in the brain rather than actually affecting fat storage directly and is the neurotransmitter **SEROTONIN**. The amino acid tryptophan and carbohydrates are both necessary for the production of serotonin. In *The Feel Good Diet,* Dr. Cheryle Hart tells about patients who have been on strict low-carbohydrate diets and come to her with depression and even symptoms of mental imbalance such as compulsive behavior. They also struggle to stay on a diet. This is because without sufficient carbohydrates in their diets their brains have been depleted of serotonin. While balancing their insulin and blood sugar levels with a link-and-balance eating plan, she allows more carbohydrate to fuel the production of serotonin and "controlled splurges" on their favorite high-carbohydrate foods. With higher serotonin levels and improved mental health, they do not feel deprived or depressed and are able to stay on the weight loss program she prescribes.[13]

This multitude of opinions about hormones and weight reminds me of John Godfrey Saxe's poem about the blind men and the elephant. One felt his tail and thought an elephant was like a rope, one felt his side and thought an elephant was like a wall, one felt his knee and thought an elephant was like a tree, etc. While all the authors of the books I reviewed agree that insulin plays a major role in weight problems, some focus on other body chemicals as well. Dr. Galland, with his 30-plus years of experience in a medical practice which includes many allergy patients, sees leptin and inflammation as the central players. Dr. Sears focuses on eicosanoids. Dr. Hart sees insulin and serotonin as crucial. All of these chemical messengers are involved, and they can all be controlled by the same healthy eating plan.

TAKE CONTROL OF YOUR HORMONES

Don't despair if the first several pages of this chapter sound like a series of vicious cycles reminding you of the old song, "There's a Hole in my Bucket." There *is* a way to escape problems with your weight-controlling hormones. The most basic way to break the hormonal cycles that lead to overweight and inflammation is to moderate insulin

[12] Sears, Barry, PhD, *Enter the Zone,* (New York, Regan Books, 1995), 38.

[13] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Feel-Good Diet,* (New York: McGraw-Hill, 2007), 6-7.

levels. Insulin can be controlled by taking charge of what you eat, when you eat, and how you combine foods.

You do not have to be hungry, deprived, or give up your favorite foods. The solution to your problems is to balance the types of foods you combine and to eat most of your carbohydrates in the forms they were in a hundred years ago rather than the way they are now.[14] Years ago, grains were stone ground; therefore bread and other foods made from the resulting flour were digested slowly. As the glucose from this bread entered the bloodstream, it provided sustained energy, rather than jolting the pancreas at every meal the way today's over-processed, fluffy, chemically stabilized white bread does. The bread of a hundred years ago would not cause insulin resistance. Sugar was an infrequent luxury food, and thus was not harmful because it was not a large part of the daily diet as it is now. In addition to being better for us, bread and desserts prepared the "old way" with less-refined sweeteners and flour taste better and are more satisfying than modern processed foods. See pages 179 to 225 for recipes for low to moderate GI breads and desserts.

THE GLYCEMIC INDEX AND WEIGHT LOSS

How then can we control our insulin levels? By determining that we will eat wisely and in harmony with what our bodies actually need rather than by following conventional nutritional doctrine. A most important tool for making wise decisions about what to eat is the glycemic index (GI). The glycemic index will be discussed fully on pages 47 to 53, but for the purposes of this chapter, you should know that the glycemic index is a system of scoring foods based on how they affect the blood sugar levels of real people. The GI score of a food reflects what actually happens to our blood sugar level when we eat that food. Testing to determine the glycemic index of a food requires human volunteers; calorie determinations are made by a machine, a calorimeter.

The glycemic index has been clinically proven to be useful in its application to diabetes, weight loss, appetite control, and coronary health.[15] It is used in Australia, Canada, the UK, France, Italy, Sweden, and other countries. The United States remains officially opposed to the glycemic index.[16]

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[14] The major contributors to the rising level of obesity and diabetes in the United States are industrialized food production and processing (Michael Pollan, *In Defense of Food: An Eater's Manifesto,* (New York: The Penguin Press, 2008), 85-87, 91-92) and the standard high-carbohydrate, low-calorie weight loss diet (http://www.montignac.com/en/la_methode_scientifique_echec_regimes_hypo.php).

[15] Brand-Miller, Jennie, PhD, Thomas Wolever, MD, Kay Foster-Powell. MND, and Stephen Colaguiri, MD., *The New Glucose Revolution,* (New York: Marlowe and Company, 2003), 31, also www.montignac.com/en/la_methode_scientifique.php and www.montignac.com/en/la_methode_regime. equilibre.php.

[16] Brand-Miller, Jennie, PhD, Thomas Wolever, MD, Kay Foster-Powell. MND, and Stephen Colaguiri, MD., *The New Glucose Revolution,* (New York: Marlowe and Company, 2003), 30.

To control spikes in blood sugar and weight-depositing spikes in insulin or chronically high insulin levels, it is best to choose most of your carbohydrates from those that are low on the glycemic index with a GI score of 55 or less. Foods with an intermediate score of 56 to 69 can be eaten in moderation.[17] For best blood sugar and insulin control, high GI foods with scores of 70 or above should be eaten only occasionally. However, there are ways to enjoy favorite high-GI foods more often by making them with a healthier recipe that results in a moderate or even low GI score.

All high carbohydrate foods should be eaten at the same time as a balancing serving of a protein food. The very sensible, balanced diet in *The Insulin Resistance Diet* by Dr. Cheryle Hart, MD and Mary Kay Grossman, RD links each carbohydrate unit containing 15 grams of carbohydrate with a protein unit containing 7 grams of protein.[18] The various *Zone* diets, which are more restrictive, allow 9 grams of carbohydrate for each 7 grams of protein.[19] The amount of protein required to balance carbohydrate can vary from person to person. (See more about how to determine this on page 91). However, carbohydrate IS important for weight loss. As mentioned previously, in *The Insulin Resistance Diet* Dr. Hart reports that diets insufficient in carbohydrate inhibit the brain's production of the neurotransmitter serotonin, and the effect of this on one's mental state makes it difficult to stay on a weight loss program.[20]

In most of the diets I researched, some foods, such as non-starchy vegetables, need not be balanced with protein because they are not concentrated forms of carbohydrates. (Yet *The Zone* diets even require vegetables to be counted in the carbohydrate you are balancing with protein). Furthermore, a few foods such as yogurt and cooked dried beans (legumes) need not be linked and balanced because they contain the right ratio of carbohydrate to protein and also because the carbohydrate in yogurt has been changed to lactic acid by the yogurt-producing bacteria and much of the carbohydrate in beans is indigestible fiber.

The amount of carbohydrate eaten at any one meal or snack should be limited to two carbohydrate units, or 30 grams of available carbohydrate. (Available or net carbohydrate is the total carbohydrate minus the amount of fiber in a food). Each unit of carbohydrate should be eaten with a unit of protein, so if you eat 30 grams of carbohydrate at a meal, such as two slices of stone ground whole grain bread for a sandwich, you need

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[17] Interestingly, white sugar falls in the intermediate range with a GI of 68. This is because each sucrose molecule is made of two monosaccharides, one glucose and one fructose. The fructose must be processed into glucose by the liver, thus slowing the release of glucose from that half of the sucrose molecule into the bloodstream.

[18] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 64.

[19] Sears, Barry, PhD, *Mastering the Zone,* (New York, Regan Books, 1997), 30-35, 331.

[20] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 92.

to balance it with two protein units, or 14 grams of protein, which is found in about two ounces of meat or cheese. However, more protein can be eaten at the same meal to satisfy hunger plus as many vegetables as you want, excluding corn, potatoes and a few exotic vegetables which are dense sources of carbohydrates. (See the list of these starchy vegetables on page 79). This system eliminates spikes in blood sugar and insulin and results in consistently lower and more stable insulin levels. Low and stable insulin levels, through the action of the enzyme triglyceride lipase, tell you body, "Go ahead and burn fat."

Hunger and fasting (as in skipping breakfast) are taboo on a healthy eating plan designed to control your blood sugar and insulin levels. They raise insulin levels which says to your body, "Blood sugar is low and falling. We're living in a land of famine. Hold on to that fat!" The stress of hunger and low blood sugar causes the secretion of cortisol and adrenaline (epinephrine) by the adrenal glands, which causes the breakdown of glycogen into glucose. This causes the blood sugar to rise and stimulates the release of more insulin. High insulin inhibits the burning of fat. If you fail to eat before your glycogen stores are depleted, muscle will be used for fuel rather than fat. Less muscle mass lowers your metabolic rate, making it harder to lose weight. The moral of this is that hunger, along with being unpleasant, really does not help you become healthier or reduce body fat while retaining muscle. Any weight loss achieved with excessive or prolonged hunger is an unhealthy reduction in pounds only and often reflects loss in muscle mass. When you are hungry, a small snack of a few nuts or a little protein and carbohydrate combined will stop this hormonal cascade and allow you to burn fat more efficiently than if you did not have the snack. This is one of the reasons why calorie-counting diets which forbid snacks between meals work poorly.

The way of eating described above – balancing carbohydrate with protein and never allowing hunger to continue for long – is probably a much easier and more pleasant way to lose weight than what you have done in the past. Maybe, in the calorie math mentality, your current habit is no breakfast, no snacks, and lots of exercise leading to minimal weight loss. Why not give this healthy eating plan a try? More specifics about how to implement it are found on pages 71 to 83. A more complete explanation of the physiology involved is found on pages 36 to 46.

Inflammation is Part of the Problem

You may be thinking, "I don't have any major problems with inflammation," and start to turn this page. Read a few paragraphs of this chapter and then decide whether it applies to you.

Sometimes inflammation is obvious – it causes redness, warmth, and/or pain. However, chronic inflammation can be silent. If you are overweight, you may not know it, but you are experiencing silent inflammation. As we gain weight, our bodies do not add more fat cells. The fat cells we already have become larger and are filled with more fat instead. They may leak as they are stretched more and more. Then immune cells called macrophages come in to clean up the mess. The macrophages release inflammatory chemicals in the fatty tissues as they are cleaning up.[1] This inflammatory response may be the mechanism behind many of the negative effects of overweight on health.

Your body counteracts this silent inflammation by producing anti-inflammatory chemicals. Some of these interfere with the function of the hormone leptin. In optimally healthy people, leptin is responsible for automatically maintaining weight at the right level.[2] Some people do not gain weight no matter what they eat. If they overeat, their well-functioning leptin control system boosts their metabolism and decreases their appetite to restore them to their best weight. When leptin is made ineffective by inflammation, the dysfunction is called leptin resistance, meaning that even though you have normal or high[3] levels of leptin your leptin does not work to suppress appetite and speed metabolism, thus maintaining a healthy weight.

This may sound like a depressing vicious cycle. Excess fat leads to inflammation and the chemicals that counteract inflammation (which are necessary to keep silent inflammation from causing symptoms) make it impossible for the body's weight-control hormone, leptin, to function properly. Don't despair though – there is a way to break this vicious cycle. There is also good news: As you slim down, leptin resistance abates and when you reach a healthy weight on the correct eating plan for you, you won't have to struggle to maintain a healthy weight. Your newly-functional leptin system will control your appetite and weight.

So how do we reduce inflammation? A very important way is to control the type of fat we consume. Prostaglandins and other eicosanoids are made from the fats we eat. Some of prostaglandins promote inflammation and some reduce it. (These anti-inflammatory prostaglandins are not the anti-inflammatory substances responsible for

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[1] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 33.

[2] Ibid., 32-33.

[3] Leptin levels are usually high among those who are overweight.

leptin resistance). The essential omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) tip the balance toward the production of anti-inflammatory prostaglandins. Although optimally healthy people can make EPA and DHA from other omega-3 fatty acids, those with allergies often lack this ability so must get the EPA and DHA they need pre-formed. The best dietary source of these fatty acids is fatty fish. Most people need more omega-3 fatty acids than they can consume easily by eating fish so benefit from fish oil or krill[4] oil supplementation. How much fish oil you need is an individual matter; also various authorities disagree on the amount.[5] See page 57 for more about omega-3 supplementation.

Some foods also have anti-inflammatory properties because they contain powerful bioflavanoids and carotenoids.[6] These foods include ginger and related spices, cherries, blueberries, other dark berries, pomegranates, and some other fruits, vegetables, and seasonings. See pages 262 to 264 for a list of these foods. You can add them to your diet in generous amounts to control inflammation. The recipes in this book will help you add them in delicious ways.

Another and probably the most essential way to reduce inflammation is to reduce insulin levels. In *The Anti-Inflammatory Zone,* Barry Sears, PhD describes his work with members of the Stanford University swim team during one summer and how he improved their stamina and performance by giving them EPA and another fatty acid, gamma-linolenic acid (GLA) in individualized regimens. (GLA is another fatty acid important to the proper balance of eicosanoids). However, when the school year started, their performance deteriorated and they became easily fatigued. Dr. Sears began to suspect that the cause was their diets and that high-carbohydrate dormitory food was raising their insulin levels. Library research confirmed his suspicion when he found a study which demonstrated that high insulin activates an enzyme that increases the production of pro-inflammatory eicosanoids. He had the swimmers change their diets and their performance improved. His conclusion was that following an eating plan which controls blood sugar and insulin levels results in the balance of eicosanoids being more anti-inflammatory, resulting in less silent inflammation.[7] Although the goal of the swimmers was not weight loss, his findings apply to those who wish to lose because when silent inflammation decreases, leptin becomes more active, and we lose weight more easily.

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[4] If you are allergic to shellfish, do not take krill oil. It comes from tiny marine crustaceans.

[5] Dr. Leo Galland recommends 2 grams per day with more to be taken only under a doctor's supervision. The most significant problem that can be associated with excessive omega-3 supplementation is bleeding. (Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 102). Barry Sears, PhD of the *Zone Diet* books recommends 5 grams per day for people who are overweight, 7.5 gram per day for those with arthritis, and 10 grams per day for people with neurological conditions. (Sears, Barry, PhD, *The Anti-Inflammation Zone,* (New York, Regan Books, 2005), 81).

[6] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 92-94.

[7] Sears, Barry, PhD, *The Anti-Inflammation Zone,* (New York, Regan Books, 2005), 215-216

Many readers of this book have inflammation that is not silent. You have allergic reactions, asthma, arthritis, inflammatory bowel disease, etc. Following a healthy eating plan for glycemic control, taking fish oil in the correct dose for you, and adding anti-inflammatory foods to your diet will help your inflammation. Dr. Galland writes about putting patients on diets designed to reduce inflammation and "those who were overweight began losing weight without even trying" as they saw their asthma, arthritis, or other inflammatory conditions improve.[8]

Therefore, your healthy eating plan should include three tools to improve your health through controlling inflammation: eating in a way that eliminates blood sugar and insulin spikes and maintains insulin at a relatively constant low level; consuming enough omega-3 fatty acids; and the inclusion of a generous amount of anti-inflammatory foods in what you eat. If you eat this way to lose weight, your inflammatory health problems may improve, and if you do it to control inflammation, your weight should normalize. An additional benefit will be the reduction of your level of cortisol, the inflammation dampening adrenal hormone. This may reduce anxiety and depression and lead to better sleep because excess cortisol depletes brain chemicals such at the neurotransmitter serotonin.[9] The antidepressant drugs you see advertised on television are designed to have the same effect of raising serotonin levels, but they can have serious side effects. Rather than helping you make more serotonin, they just inhibit its uptake, and any fluctuation in medication dosage, etc. can cause imbalances in the brain's serotonin level which may lead to dangerously erratic behavior.

You have much to gain from an eating plan that controls blood sugar levels and inflammation: easier weight loss, improvement in inflammatory health conditions, better sleep, and relief from anxiety and depression caused by imbalances in brain neurotransmitters. (This healthy eating plan won't make you ignore a *real* problem or do something out-of-character though!) With all of this to gain, why not give it a try? Read on to discover how controlling your hormones can control hunger, which is a major reason most weight loss diets fail to produce permanent results. With an eating plan that avoids hunger, you can do it! You can slim down without the struggle and distress you may have experienced while trying to lose weight in the past.

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[8] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 32.

[9] Beale, Lucy and Joan Clark, RD, CDE, *The Complete Idiot's Guide to Glycemic Index Weight Loss,* (New York: Alpha, 2005), 23, 27.

Putting Principles into Practice
Your Customized Healthy Eating Plan

You have read about carbohydrates, fats, factors that influence inflammation, and factors that affect your level of insulin, cortisol, leptin, and other hormones and regulate body fat. Now it is time to translate the principles in the previous chapters into practice. This will allow you to lose weight, control inflammation and improve your health without being hungry or deprived. Listen to your body and individualize the healthy eating plan in this chapter to fit YOU as you read about what to eat, when to eat, and how to combine foods to achieve your goals on the next few pages.

As previously mentioned, when I was preparing to write this book I studied a number of glycemic control and anti-inflammation diet books and evaluated them for their suitability for those with food allergies and gluten intolerance. I looked for diets that provided sufficient food to keep from setting your metabolism at a lower rate than before you started (thus making it harder to lose weight and keep it off), provided enough carbohydrate to support the synthesis of neurotransmitters, and were simple and easy to follow yet offered possibilities for variety and enjoyment to satisfy the psyche as well as the body. I tried the diets myself to the degree that I could within the boundaries of my own food allergies. Unfortunately for the purposes of this book, I am not overweight, but my arthritis gives me an easy barometer with which to gauge how effective diets are at reducing inflammation.

Because I'm not a good weight loss "guinea pig" myself (although I am eating this way for arthritis), I can't speak from recent personal experience on how this system works for weight loss. However, (1) the physiology of this eating plan makes sense, (2) I did lose weight easily and comfortably on a similar eating plan 33 years ago and have kept it off for over three decades, (3) I have some human volunteer "guinea pigs" who I am advising and observing (see pages 269 to 271) and (4) the glycemic control weight loss books on which this book is based say that their diets are effective at helping people reduce their weight permanently and boast hundreds or thousands of satisfied users of the diets. In the near future I plan to revise and expand this book to include a full complement of recipes of all kinds for a wide range of allergy and celiac dietary needs. I'm hoping that before then those of you who use the eating plan in this chapter will give me some feedback on how it works for you and what additional recipes would help you. Please send feedback using the contact form on the www.food-allergy.org or www.foodallergyandglutenfreeweighloss.com websites.

What To Eat and When To Eat It on Your Healthy Eating Plan

This section is an outline of meals and snacks that will help you control your blood sugar and insulin levels, thus leading to hunger-free weight loss and decreased inflammation. This outline is not set in stone. Read the principles behind this outline on pages 74 to 83 to understand more details of this eating plan and thus know how to modify it to fit YOU. If you have read or will read the previous chapters, they explain the physiology behind how and why this eating plan works. In the interests of simplicity and clarity, however, here is a short didactic outline.

THE PLAN

FOOD UNITS: Use the tables (pages 250 to 261) and recipes in this book to determine how much of each kind of food constitutes one unit of carbohydrate or protein. If you are reading labels and calculating how much food is one unit, use the number of grams per unit given below for your calculations.

Carbohydrate: Choose carbohydrate foods that are low or moderate on the GI scale most of the time. Each unit of carbohydrate contains about 15 grams of carbohydrate, not counting fiber. Thus, if a label says a serving contains 20 total grams of carbohydrate and 5 grams of fiber, that serving is one unit. **TWO UNITS (30 grams) is the maximum amount of carbohydrate that should be eaten at any meal or snack.** Fruits, grain-based foods, and a few starchy vegetables[1] count as carbohydrates. See pages 251 to 256 for a list of foods that count as carbohydrate units and the amount that is one unit. A few people may need to pair each unit of protein with a smaller amount of carbohydrate than 15 grams. However, do start with 15 grams of carbohydrate balanced with each protein unit and see you how do. See pages 31, 75, 91, and footnote 1 on page 36 for more about this individual variation in balancing foods.

Protein: Each unit contains 7 grams of protein and is the amount in one ounce of lean meat, poultry, fish, low-fat cheese, or one egg. Legumes are included in the protein food category rather than being counted as vegetables, with ⅓ cup of legumes being one unit. See pages 257 to 260 for a list of foods that count as protein units. If your meal or snack does not satisfy you with the number of units specified under "Meals and Snacks" below, you can eat more protein to satisfy your hunger. Two to three units of protein per meal may be enough for women and older people, but men and younger women may need more.

[1] Do not miss the vegetable section at the end of the carbohydrate foods on page 256. The vegetables that are concentrated sources of carbohydrate and must be counted as carbohydrate units include corn, potatoes, sweet potatoes, plantains, taro roots, and true yam.

Fat: Eat 4 to 5 tablespoons (45 to 55 grams) per day, counting the amount in foods such as meat and cheese and being sure to get ⅙ of your fat intake as omega-3 containing fats over the course of a week. See pages 257 to 261 for a listing of foods that contain a significant amount of fat that must be counted. Fat may be eaten with any meal or snack. Including fat-containing foods in each meal or snack will keep you satisfied longer. If you are using commercially made foods and reading the amount of fat from the nutrition labels, your daily intake of fat should be 45 to 55 grams.

Other foods: Most vegetables are not counted in the categories above and can be eaten in any quantity at any meal or snack. The exceptions among commonly eaten vegetables[2] are corn and potatoes, which count as carbohydrates and must be balanced with protein. See the listing of vegetables on page 256 to determine what serving size of starchy vegetables is one carbohydrate unit. Be sure to eat 5 to 9 servings of fruits and vegetables per day.

MEALS AND SNACKS

EAT FOR BREAKFAST:

1 to 2 units of carbohydrate (starch and/or fruit)
1 to 2 units of protein or more to satiety

The number of units of protein must be the same as or greater than the number of units of carbohydrate. If this is not enough food to satisfy your hunger, add more protein or vegetables to the point of satiety. Eat breakfast within one hour of arising. If you are on a rotation or very restricted allergy diet, you may wish to eat your dinner menu for breakfast, such as meat and vegetables dressed with oil, adding some carbohydrate if possible. See pages 102 to 114 for breakfast ideas.

EAT FOR SNACKS, 3 snacks per day (or more if needed) 2 to 3 hours after meals. Have snacks at mid-morning, mid-afternoon, bedtime, and at other times if you are hungry[3]:

1 to 2 units of protein (unless eating an apple or similar fruit for between meal snacks only; see details in the next paragraph)
0 to 2 units of carbohydrate (fruit and/or starch)
Vegetables if desired, as much as you want

[2] Some less commonly eaten vegetables that are concentrated sources of carbohydrate are plantains, sweet potatoes, taro root, yucca (cassava) and true yam.

[3] For more about how often and when snacks should be eaten to control hunger, blood sugar, and insulin levels, see page 61 and the next page.

The number of units of carbohydrate in your snack must be the same or less than the number of units of protein. Dr. Hart advises usually including two types of food in each meal or snack.[4] Therefore, unless you're eating nuts or string cheese while working just because it is snack time, not out of hunger, you might want to include a vegetable if you skip the carbohydrate. An exception to the "protein with each meal and snack" rule is, for between-meal snacks, to eat a moderately sized high-fiber fruit (apple, pear, peach, two plums, or a grapefruit half[5]) from which the carbohydrate is absorbed so slowly that it does not need to be balanced with protein. For the bedtime snack or if you are stressed or especially hungry, don't skip the protein – eat protein even with these fruits.

Snacks are at the core of this healthy eating plan because they make it possible to keep your insulin level low and stable. Hunger means that your blood sugar is low or falling. A snack eaten soon after getting hungry will prevent the release of adrenal hormones that raise insulin levels and make it impossible for you to burn fat. Thus, a small snack eaten in time will keep you in the "burn fat" mode. Snacks also keep you from getting too hungry to be satisfied with moderate-sized portions at your next meal. Be sure to have a snack at least every three hours, especially when you are just starting this eating plan and trying to get your hormone levels stabilized.

See pages 115 to 119 for snack ideas.

EAT FOR LUNCH AND DINNER:

1 to preferably 2 units of protein or more to satiety
0 to 2 units of carbohydrate (starch and/or fruit)
Vegetables if desired, as much as you want

The units of protein must be the same as or greater than the units of carbohydrate. If this is not enough food to satisfy your hunger, add more protein or vegetables to the point of satiety. If you wish to, or must due to allergies, it is all right to eat a meal of only protein and vegetables, but some carbohydrate rounds out the meal and helps you make the serotonin needed for sleep. For lunch and dinner ideas, see pages 120 and 158.

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[4] If your non-allergic eating plan companions have a cup of sugar-free fruit yogurt for a snack, that is two foods – yogurt and fruit.

[5] This is an updated list of fruits that do not need to be balanced with protein with portion sizes from *The Feel Good Diet.* The fruits currently allowed without protein balancing are 1 apple, pear, peach or nectarine, 4 apricots, 14 cherries, 2 small plums, or ½ grapefruit. Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Feel-Good Diet,* (New York: McGraw-Hill, 2007), 74, 105.

Principles of Your Individualized Healthy Eating Plan

The meal and snack outline above should have variety and be individualized to YOU and your food allergies or intolerances. As you follow the principles below in choosing what you will eat, pay attention to how you feel. Then, based on how YOUR body responds, individualize and tweak your eating plan until is works well for you.

PRINCIPLE #1: CONTROL YOUR FOOD ALLERGIES AND/OR GLUTEN INTOLERANCE.

Eating foods you are allergic to causes inflammation which interferes with hormonal stability, good blood sugar control, and weight loss. If your levels of adrenal hormones and insulin are raised by an allergic reaction, that has the same effect as eating too much of a high GI carbohydrate in encouraging your body to deposit fat. Therefore, the most important principle of your healthy eating plan is to avoid gluten if you are gluten intolerant and to avoid all foods to which you are allergic. If your allergies are widespread among foods and/or severe enough to require a rotation diet, rotate all of your foods. (For more about how to use a rotation diet, see *The Ultimate Food Allergy Cookbook and Survival Guide* as described on the last pages of this book). Keep the members of the food families together on the same day of your rotation diet. Rotate oils even if this means you are using an omega-6 oil as your "oil of the day" on some rotation day(s). Spread out whatever anti-inflammatory foods from Dr. Galland's anti-inflammatory superfoods list (pages 262 to 264) you tolerate over your rotation days, placing them with other members of the same food families, so you hopefully get at least some anti-inflammatory foods in your diet each day and in as much variety as your allergies allow.

PRINCIPLE #2: WHEN YOU EAT MATTERS ALMOST AS MUCH AS WHAT YOU EAT.

Do not prolong the overnight fast of sleep unnecessarily. Eat a good protein and carbohydrate and/or vegetable containing breakfast within an hour of arising. Eat three meals and three snacks per day, or more snacks if needed. You may need snacks more often and more than three snacks per day if your blood sugar and insulin levels are fluctuating wildly when you first start this eating plan, or if you are under stress, are having an allergic reaction, or you have a major high-GI dietary slip-up. Ideally, each meal or snack should keep you from being hungry for 2½ to 3 hours. During the day, especially when you first start this eating plan, do not let more than three hours elapse between

meals and snacks. Since dinner tends to be the most satisfying meal of the day,[6] if you are not hungry three hours after dinner you can postpone having a bedtime snack until a convenient time before bedtime.

If you become hungry less than two hours after a meal or snack, try to determine why. The first thing to consider is thirst, which can masquerade as hunger. This is not the time to reach for a diet soda, though! It could send you on a hormonal roller coaster, which will make you feel less hungry, but is counterproductive for weight loss. Have a drink that does not contain caffeine or artificial sweeteners such as water or herbal tea, hot or iced.

If you are still hungry several minutes after your drink, the problem is probably hunger rather than thirst. Have a protein-containing snack with some vegetables without further delay to stabilize your blood sugar and keep your insulin level low. (Add a small amount of carbohydrate ONLY if it has been more than two hours since your last meal or snack). Then try to figure out why you got hungry early. Are you under stress or having an allergic reaction? If so, it is affecting your hormones and you may need snacks more often until the situation causing the stress is resolved or the allergic reaction has cleared. Read more about stress on pages 41 to 42 and if possible try to relax using the methods suggested on page 42.

Was your last meal or snack too high in carbohydrate or too low in protein? The balance needed is an individual thing. While Dr. Cheryle Hart, MD recommends linking 15 grams of carbohydrate with 7 grams of protein for most of her patients, she says that a few patients require a lower amount of carbohydrate to balance with each protein unit in order to become and stay satisfied and to lose weight. Barry Sears, PhD recommends eating 9 grams of carbohydrate with each 7 grams of protein, but Dr. Hart maintains this lower amount of carbohydrate can be insufficient for proper neurotransmitter production in some people. It is an individual matter, so again listen to your body and try changing the proportions of the foods the next time you eat the same foods together as a snack. In addition, if you have a previously undetected food allergy to one of the foods, this can cause a hormonal response that results in early hunger. With a little experimentation and by listening to your body, you will be able to keep yourself in better balance.

You may be thinking, "I don't have time for all of these meals and snacks. This is going to disrupt my work schedule!" Indeed, people who get very involved and busy with their work often work through hunger and unintentionally ignore it, thus unbalancing their blood sugar and insulin levels and thereby leading to excessive hunger by the next time they stop for a meal. EAT YOUR SNACKS! They don't have to take long.

[6] In the Canadian study discussed on pages 36 to 37, on the glycemic control diet the participants' blood sugar and insulin levels were quite stable after dinner and during the evening hours. This data may a demonstrate why evening can be a less-hungry time of day if you have eaten to control blood sugar and insulin earlier in the day. For the study, see www.montignac.com/en/etude_scient_sur_meth_mont.php

If you are busy and not apparently hungry between meals, just munch on 8 or 10 nuts while you are working for a between-meal snack.[7] If you are aware that you are hungry between meals, take the time to eat an ounce of protein with a little carbohydrate (one 15-gram unit or less) and/or vegetables. Be prepared! Carry along some nuts, an apple or pear, and/or a link-and-balanced snack for between-meal snacks every day. Although between-meal breaks from work are mandated by law, they do not occur in some jobs. You need to find a way to eat between-meal snacks anyway. A friend of mine who is a librarian carries along cheese sticks which are crumbless and can be discretely eaten between clients while she is working at the reference desk.

Make time to eat a protein-containing breakfast every morning within an hour of arising. Get rid of your preconceived ideas about breakfast having to be cereal, pancakes or eggs. For the allergic, meat and vegetables make a good, satisfying breakfast. If you run out of energy mid-morning, you might try a breakfast burrito (recipes on pages 102 to 105) to be sure you get something that will really sustain you. Prepare the burritos in advance and take them with you in the morning if you're short on time. Non-allergic family members or friends who are following this healthy eating plan with you might appreciate the additional meal and snack ideas containing commercially prepared foods in *The Insulin Resistance Diet.*

PRINCIPLE #3: PROTEIN IS ESSENTIAL.

Protein plays a crucial role in a link-and-balance glycemic control eating plan because it is vital to maintaining low and stable insulin levels. Protein promotes satiety that lasts long after a meal. However, if you have kidney disease or have ever been told to limit your protein intake for another reason, do not follow this program. If you need to lose weight, consult your doctor for how to do it.

A Canadian study [8]demonstrated the controlling influence of protein in the diet on hunger. The overweight study participants ate three diets, each for a six day period, with two weeks "off" between the diets. On the first diet they were allowed to eat until satisfied on a low-glycemic diet. The second diet was a standard American Heart Association approved low-fat diet on which they ate until satisfied. While on the low-glycemic index diet they automatically ate 25% less calories than when on the low-fat diet. For the third diet they ate an AHA approved low fat diet with the amount of food restricted to the lower calorie level they had automatically eaten on the glycemic index controlled

[7] Consider carrying a small Ziploc™ bag containing a few nuts in your pocket if you are finding it difficult to eat your snacks.

[8] Dumesnil, Jean G, "Effect of a Low-Glycemic Index, Low Fat, High Protein Diet on the Atherogenic Metabolic Risk Profile of Abdominally Obese Men," *British Journal of Nutrition,* 86(2001): 557-568; www.montignac.com/en/etude_scient_sur_meth_mont.php .

diet. The results were that they gained weight on the unrestricted low fat diet. They lost weight on both the low-GI diet and the calorie-controlled low fat diet, but they lost about 50% more weight and almost twice the waist circumference on the glycemic index controlled diet as they did eating the same number of calories of a low-fat diet. Their blood fat, blood sugar and insulin levels were measured on the last day of each diet. On the glycemic index controlled diet their blood sugar and insulin levels showed less pronounced spikes and their triglycerides decreased by about one third. On both AHA diets, their triglycerides increased by about one fourth. To read more details about the study, visit this webpage: www.montignac.com/en/etude_scient_sur_meth_mont.php.

The results of this study showed that by linking protein foods with carbohydrate foods, we can moderate the effect the carbohydrates have on insulin levels and thus lose weight while eating enough food to be satisfied. We can enjoy our favorite foods and consume enough carbohydrates to allow adequate neurotransmitter production. In addition, we reap the health benefits of the vitamins, antioxidants, anti-inflammatory phytonutrients, and fiber found in carbohydrate-containing foods.

With a very few exceptions (i.e. between meal snacks of very high-fiber fruits such as a moderately sized apple, pear, plum, peach, or grapefruit half as listed under "Snacks"), protein foods should be a part of every meal and snack. Here are some good choices:

Lean meat, poultry, and **fish,** and also **eggs** if you are not allergic to them. It is important that the meat be lean because the fat in conventionally raised beef is high in arachidonic acid which leads to the production of pro-inflammatory prostaglandins. (Eat range-fed beef or game meat for a less inflammatory fat profile in your meat). You should eat two or more ounces of meat, poultry or fish or two eggs per meal. Eat one to two ounces per snack or enough to satisfy your hunger. Meat does not have to be eaten plain but rather can be an ingredient in your favorite entrées. See the main dish recipes on pages 137 to 158 and lunch dish recipes on pages 120 to 136 for creative ideas to liven up your meals.

Legumes, or cooked dried beans and peas, are an excellent choice for protein foods because they are also very high in fiber. Although they do contain carbohydrates, a large amount of it is indigestible (fiber) and the remainder comes automatically balanced with protein. In *The Insulin Resistance Diet* Dr. Hart recommends consuming at least ⅔ cup of cooked legumes per meal, ⅓ cup for a snack, or enough to satisfy your hunger if you are still hungry after eating the recommended amounts. By listening to your body's hunger signals after a meal at which you ate slowly enough to take time to experience and enjoy your food, you will individualize your protein intake to your body's needs. Canned legumes prepared without sugar are an ideal quick and easy protein source for meals and snacks.

Low-fat dairy foods are excellent protein sources and can be eaten if you are not allergic to them. If you are allergic to cow's milk, check your allergy testing results with your doctor and see if you can try goat or soy dairy products. As with meat, low-fat dairy products are preferable because they minimize your consumption of pro-inflammatory arachidonic acid and help you stay within the recommended 45 to 55 grams of fat per day. If you are allergic to cow's milk products but can eat goat or soy products, a good choice is plain goat or soy yogurt mixed with fresh or unsweetened canned or frozen fruit and, if you prefer your yogurt sweeter, with a pinch of Protocol for Life Balance™ stevia. (This next generation stevia has very little of the licorice aftertaste that stevia used to have). For non-allergic eating plan companions who can have cow's milk, Dr. Hart recommends fat-free or low-fat no-sugar-added cups of yogurt. (See page 68 for more about the artificial sweeteners in this yogurt. Since the sweeteners come with food – high quality milk protein – they should not destabilize blood sugar and insulin levels). Although some dairy products such as milk contain lactose, this is not a high GI sugar and comes automatically balanced with milk protein. The one-protein-unit serving sizes for the most common dairy foods are 8 ounces of milk, 1 cup of yogurt, or 1 ounce of low-fat cheese. For other dairy products, see the tables on pages 257 to 258. As with the other protein foods above, if you are still hungry after consuming these sizes of servings, eat enough to satisfy your hunger.

Nuts. seeds, and no-sugar-added nut butters are handy and portable protein snack foods that, with the exception of peanuts, are often tolerated by those with food allergies. However, they should be "clean" nuts. Be careful to avoid nuts with gluten-containing flavors and additives if you are gluten-intolerant or have food allergies and to avoid nuts with sugar in their coating. Purists usually eat raw nuts for their perfectly undamaged fat profile. The normal serving size for nuts is one ounce. If you are using this eating plan to control inflammation rather than for weight loss and one ounce doesn't satisfy you, eat more – enough nuts to satisfy your hunger. For weight loss, Dr. Hart recommends eating no more than two ounces of nuts per day because of their high fat content. However, although they do contain more fat than many of the protein foods above, the fat in nuts is anti-inflammatory fat. It is better for your weight to consume a little extra fat in a snack of easily portable nuts than it is to miss the snack and destabilize your insulin level, thus promoting fat storage.

The thing to remember about **the amount of protein eaten** is that it **must be enough to balance the amount of carbohydrate eaten** at the same meal or snack. Satisfy your hunger with more protein if needed but stop eating when you are satisfied rather than stuffed. Whatever you haven't finished can be saved for the next meal or snack and you will enjoy it just as much or more then.

PRINCIPLE #4: CARBOHYDRATES ARE ALSO ESSENTIAL, BUT THE QUANTITY OF CONCENTRATED CARBOHYDRATE FOODS MUST BE CONTROLLED AND BE BALANCED WITH SUFFICIENT PROTEIN AT EACH MEAL OR SNACK.

Carbohydrate foods are essential for good health. They provide a quick source of fuel for our brains which cannot derive energy from other types of food. Plant foods are our only source of fiber, and insufficient fiber in the diet has been associated with insulin resistance.[9] Most of the foods on Dr. Galland's anti-inflammatory food list on pages 262 to 264 come from plants. Thus, very-low carbohydrate, high protein diets deprive us of the foods which are our best sources of vitamins, minerals, bioflavanoids, carotenoids, anti-oxidants and other nutrients vital for good heath.

However, carbohydrate-dense foods such as **breads and grain products** eaten alone can cause spikes in insulin levels, especially if they are high on the GI scale. Therefore, all carbohydrate-dense foods need to be eaten with protein, and most of the time they should be chosen from foods low or intermediate on the glycemic index. To achieve balance, for every 15 grams of carbohydrate in a meal or snack, you should consume 7 grams of protein at the same time. This is the core principle of the link-and-balance method of controlling blood sugar and blood insulin levels. On pages 251 to 256 you will find a listing of serving sizes for carbohydrate foods (with one unit approximately equaling 15 grams of carbohydrate) and on pages 257 to 260 you will find a similar list for protein foods (with one unit approximately equaling 7 grams of protein), Use these lists to make food choices for balanced meals and snacks. **Do not eat more than 2 units (30 grams) of carbohydrate-dense foods per meal or snack.** More than 30 grams of carbohydrate eaten at once and not used for physical activity within two hours will result in the deposition of fat. If you get hungry in less than two hours after a meal, you should have a protein snack with vegetables but do not consume more concentrated carbohydrate foods.

Although **vegetables** contain carbohydrates, with a few exceptions, they are not carbohydrate dense. They contain fiber which moderates the absorption of the carbohydrates and they also contain a fair amount of water. Therefore, most of them need not be balanced with protein. There are few carbohydrate-dense vegetables which are exceptions to this rule (**corn, plantains, potatoes, sweet potatoes, taro root and true yams**) and they **must be balanced with sufficient protein.** You may eat the other, non-carbohydrate-dense vegetables in unlimited amounts to satisfy hunger. Be sure to eat enough fruits and vegetables – at least five servings per day according to Dr. Hart and nine servings per day according to Dr. Galland – for the anti-inflammatory weight loss-promoting nutrients they contain.

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[9] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 75.

Some **fruits** are so high in fiber that, according to Dr. Hart, they may be eaten alone for a snack without balancing them with protein. This is because the fiber slows down the absorption of the carbohydrates which they contain. These fruits include apples, pears, peaches, plums and grapefruit; they must be eaten raw, not juiced, not cooked. If you eat them alone, do not eat more than one moderate serving for a snack. If you want a larger serving of these fruits or if you are eating any other kind of fruit, balance the carbohydrate in them with protein as you do for carbohydrate-dense foods. To determine how to balance various fruits with one serving of protein, see the table on pages 251 to 252. Each serving of fruit containing 15 grams of carbohydrate should be balanced with 7 grams of protein. Do not eat more than 30 grams of carbohydrate from all sources combined at any meal or snack.

PRINCIPLE #5: FAT IS ESSENTIAL AND SHOULD NOT BE OVERLY RESTRICTED.

Our bodies cannot make essential fatty acids so we must consume them in the fats we eat every day. How much fat we need can be controversial. Standard American weight loss diets (Weight Watchers,™ American Heart Association recommended diets, etc.) drastically restrict the amount of fat consumed. Even among the glycemic control and anti-inflammatory diet books I consulted there is a wide range of recommendations. Barry Sears, PhD is on the high end of fat recommendations. He recommends that if you have lost all the weight you need to lose and are into a weight maintaining mode, or if you are still hungry after consuming his balanced meals, rather than eating more protein, you should eat monounsaturated fats.[10] (Personally, I doubt that more fat would adequately satisfy me, and there are people who have trouble digesting much fat). At the other extreme, in *The GI Diet,* Rick Gallup limits fat consumption to about two teaspoons per day. He warns that after losing weight on his diet, one's metabolism may have reset to a lower level, and less food may be needed to maintain one's weight than before dieting.[11] In my opinion, this might be the case because his diet, with its strictly controlled portion sizes for all foods (not just carbohydrates) can be lower in fat and calories than is ideal.

The middle-ground recommendations for fat consumption of Dr. Leo Galland, MD are moderate and sensible. He recommends 2 grams of omega-3 fatty acids per day to insure an adequate supply of anti-inflammatory fat in the diet. (This may need to be taken in supplement form such as fish oil by those who are allergic and cannot convert omega-3 oils to their active forms). He instructs that no trans-fats should be eaten and that our dietary fat intake should be about 25 to 30% of our total caloric intake. This translates into about four to five tablespoons of fat per day (or 45 to 55 grams), some of

[10] Sears, Barry, PhD, *Mastering the Zone,* (New York, Regan Books, 1997), 37.

[11] Gallop, Rick, *The GI [Glycemic Index] Diet,* (New York: Workman Publishing, 2002), 97.

which occurs naturally in protein foods such as meat and dairy products. In the course of a week's time, dietary fat intake should consist of:

About ⅓ saturated fats eaten in meat and dairy products

About ⅓ monounsaturated fats such as that from heart-healthy olive oil, olives, avocados, almonds, cashews, pistachios, macadamias, hazelnuts and pine nuts, or oils from these nuts and

About ⅓ polyunsaturated fats such as omega-3 fats from fish, fish oil, canola oil, walnuts or walnut oil, and flax seed or flax oil or omega-6 fats such as from sesame seeds and oil, Brazil nuts, grapeseed oil, sunflower seeds or oil, and safflower oil. For those who are not allergic to corn and soy, cold-pressed corn and soy oils are also acceptable omega-6 oils. Omega-3 and omega-6 fats should be consumed in about equal amounts.[12]

Because Dr. Galland says that these proportions are based on a weekly fat intake, do not worry if you must rotate your food oils and consume grapeseed oil or safflower oil on a day or two of your rotation and walnut, canola, avocado, or olive oil on the other days. Rotation and control of your food allergies must take precedence over strictly meeting the ideal percentage of various oils in your diet. Note that his recommendations are for approximate amounts.

Not only are fats essential because you must consume them to get essential fatty acids, but also because we cannot absorb fat soluble vitamins such as vitamins A, D, E, and K without sufficient fats in our diets. Our brains and nerves are sheathed in a layer of tissue that contains about 60% fat and will not function properly if this sheath breaks down. Our cell membranes also depend on fat to give them structural integrity.[13] Although unnatural fats (chemically saturated fats such as trans fats) are unhealthy, natural fat is not our enemy; it is essential for health. Imbalance in the natural fats we consume or the amount we consume is the only problem.

PRINCIPLE #6: FIBER AND PHYTONUTRIENTS ARE ESSENTIAL. EAT PLENTY OF THEM.

In *The Fat Resistance Diet*, Dr. Leo Galland gives one rule for choosing which carbohydrate foods to eat. He says, "When choosing carbs, make sure you get the most fiber and phytonutrients for the calories you consume."[14] Fiber is essential because it slows down the absorption of food from the intestinal tract (thus lowering its glycemic impact), absorbs toxins, and prevents constipation. When my husband greatly boosted his fiber intake by eating two to three bowls of multi-bean soup for dinner every night for over a week when he had a tooth break recently, he felt incredibly stable blood-sugar

[12] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 43-45.

[13] Michael Pollan, *In Defense of Food: An Eater's Manifesto,* (New York: The Penguin Press, 2008), 49.

[14] Galland, Leo, MD, The Fat Resistance Diet, (New York: Broadway Books, 2005), 63.

wise. Phytonutrients such as bioflavanoids and carotenoids reduce inflammation and have numerous other health benefits.[15] For a list of foods high in anti-inflammatory phytonutrients, see pages 262 to 264.

PRINCIPLE #7: EAT FREQUENTLY AND IN MODERATE AMOUNTS TO KEEP YOUR BODY FROM USING THE TWO HOUR WINDOW AFTER MEALS TO STORE FAT.

Frequent meals and snacks are essential to controlling insulin levels. Additionally, if you eat frequently, you will naturally be less hungry at each meal or snack, especially after you have followed this eating plan for a while and your insulin levels have become consistently stable. Your body has a 2-hour window after meals in which it determines whether or not to deposit fat.[16] Any carbohydrates from the meal that are not used as fuel during these two hours will be converted to fat for storage. By not exceeding 30 grams (two units) of carbohydrate per meal or snack, you will avoid converting excess carbohydrate into fat for storage. Excess protein and fat above what you use in that two hours can also be deposited as fat within these two hours, but protein is not converted to fat as readily as carbohydrate, and neither of these create a high insulin response which promotes depositing fat by activating the fat storage enzyme lipoprotein lipase.

If you go for long periods of time without eating, your metabolism slows down and your body enters a starvation mode. Then when you do eat, the high insulin levels you have will cause more of what you eat to be stored as fat. After all, your hormones think you are living in a land of famine! Studies show that people who eat at least five times a day are the most successful at achieving and maintaining a healthy weight.

PRINCIPLE #8: STAY WELL HYDRATED.

Thirst can masquerade as hunger. Although the practice of forcing oneself to drink eight glasses of water per day has fallen from favor, be aware of when you may be getting thirsty. If you feel hungry soon after eating, try drinking some water first. I also find that thirst sometimes masquerades as fatigue.

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[15] Galland, Leo, MD, The Fat Resistance Diet, (New York: Broadway Books, 2005), 61-63.

[16] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 66.

PRINCIPLE #9: LISTEN TO YOUR BODY

Take note of how long various foods and combinations of foods in meals and snacks keep you from becoming hungry; judge what works best for YOU from these observations. By making adjustments in what you eat based on these observations, you can discover and eliminate previously undetected food allergens, keep yourself from getting hungry early and stabilize your insulin levels. See page 53 for more about how to listen to your body.

GO FOR IT!

See pages 102 to 158 for ideas and recipes to get you started on meals and snacks that implement the healthy eating principles in this chapter. Then be creative, do things your own way, and use the tables on pages 250 to 261 to incorporate your favorite foods into linked-and-balanced meals and snacks. Listen to your body and modify what you eat if it tells you that something is not right. Enjoy eating while you slim down, reduce inflammation, and improve your health on your own individualized healthy eating plan.

Exercise: Do It Right

Conventional weight loss advice says, "Just eat less and exercise more," but it is usually given by someone who never needed to lose weight. What you eat, how foods are combined, and when you eat are just as important as how much you eat. Exercise also is not as simple as conventional advice implies. Just as with carbohydrates and fats, all types of exercise are not created equal. Although exercise routines are not my areas of expertise, having read the experts, it seems to me that how much and what kind of exercise is best for YOU is as much an individual matter as what, when, and how much you eat. There actually are types and amounts of exercise that cause fat deposition rather than fat burning.

There are three types of exercise: aerobic (also called cardio), muscle building (such as weight training), and moderate exercise (also called brisk activity). Aerobic exercise receives the most attention because it strengthens the heart muscles, helps the lungs and is beneficial for most people.[1] However, if done to excess or without sufficient food, aerobic exercise can be physically stressful and induce adrenal hormone production which causes the body to deposit rather than burn fat. If done without eliciting the release of adrenal hormones, it promotes weight loss very effectively because it boosts your metabolic rate for about 36 hours after exercising, thus causing you to use more calories regardless of your activity for the next day and a half.[2] If your insulin levels are low and stable during that time, those burned calories can come from stored body fat.

The definition of aerobic exercise is exercise that is strenuous enough to cause your heart to reach a target rate determined by your age. To calculate your target pulse rate, subtract your age from 220 and then multiply that number by three fourths (0.75 using a calculator).[3] There also are pulse rate monitoring wrist watches that can be worn during exercise to easily monitor your pulse, either to keep it at the target rate for aerobic exercise or to keep it in an optimal range for fat burning, which is lower.

Muscle building exercise is also high intensity exercise and can lead to fat deposition if done to excess. However, increasing one's muscle mass in the correct way – without causing the release of adrenal hormones – will raise your metabolic rate overall because muscle tissue consumes more energy than fat. Indeed, muscle loss as a result of dieting is often a reason that people cannot maintain their goal weight. They require less food after their diet than they did originally because they lost muscle while dieting. You can avoid

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[1] Some people need to first strengthen their heart with more moderate exercise which promotes weight loss. Then they can add strenuous aerobic training after it will no longer interfere with weight loss. See the story about a patient of Dr. Hart's on page 268.

[2] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 192.

[3] Ibid, 193.

muscle loss while losing weight by having sufficient protein intake (for women - 50 to 75 grams or 7 to 11 units per day; for men - 75 to 100 grams or 11 to 14 units per day)[4] and by doing exercise that builds muscle. For best results, strenuous muscle building exercises such as weight training should be done every other day because the recovery day between exercise days is the time when muscle fibers are built.

In my opinion, moderate exercise (also called brisk activity) does not receive the respect from most exercise experts that it deserves. Perhaps this is because no special equipment or advice is needed. There is nothing to sell when a person takes up walking, but those who walk several times a week are most successful at maintaining weight loss after a diet. Walking is often touted as the best way to lose fat[5] perhaps because it is near-impossible to walk too fast to induce an adrenal hormone response that turns off fat burning. In addition to moderate exercise being the best way to burn body fat, it also builds muscle, although you won't end up with bulging biceps as you might from weight training. Another extremely important effect of moderate exercise is that it decreases leptin resistance.[6] (Leptin is the master hormone for the self-regulation of a healthy level of body fat. See pages 43 to 44 for more about leptin resistance).

Formal metabolic activity tests exist that determine an individual's optimal exercise pulse rate for fat-burning. Rather than having a test, Dr. Cheryle Hart says you can approximate your best fat burning zone by leisurely walking or bicycling, and that if you cannot carry on a conversation without sounding winded, you have exceeded that zone.[7]

Some people err on the side of too little exercise and benefit from adding a sensible exercise regime to their healthy eating plan. Always check with your doctor before starting an exercise program especially if you have been sedentary. Dr. Hart recommends starting with 10 minutes of moderate activity such as walking per day for the first week and increasing your time by two minutes per week. If you need motivation to take up exercise, consider these extra benefits. Moderate exercise is good for us in many ways in addition to burning fat: it relieves stress physically, helps remove your mind from distressing thoughts, releases endorphins in the brain,[8] and gives you a chance to do something nurturing for yourself.

So what is the right amount and type of exercise for you? How can you listen to your body to determine this? It helps to understand the physiology of how your body supplies energy when you do strenuous exercise (aerobic or muscle building exercise). First, you

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[4] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Feel-Good Diet,* (New York: McGraw-Hill, 2007), 183.

[5] Ibid,179.

[6] Galland, Leo, MD, *The Fat Resistance Diet,* (New York: Broadway Books, 2005), 122.

[7] Ibid, 181.

[8] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 189.

burn whatever glucose is in your blood from a meal or snack eaten during the previous half hour to hour. Then your body converts glucose stored in the muscles and liver in the form of glycogen into glucose. We only have enough stored glycogen to supply us with fuel for about 20 minutes of intense exercise. Because fat cannot be converted to glucose rapidly, after the glycogen is gone, our bodies begin converting muscle protein into glucose.

If you exercise moderately, the fat conversion process is able to keep up with your glucose needs so fat will be burned.[9] Thus, the best way to lose fat is to keep your insulin levels low and stable (so you are in the fat-burning mode) and exercise moderately by walking, gardening, cleaning house, or leisurely bicycling. Dr. Hart says, "If exercising makes you hungry, it means you have used up your glucose and glycogen stores. Most likely you started burning muscle. An important thing to remember is that you don't get hungry when you are burning fat."[10] Thus, hunger after exercise is how your body tells you that you were exercising too hard to burn fat.

In *The Insulin Resistance Diet,* Dr. Hart recommends limiting strenuous exercise to no more than 25 minutes per day to avoid losing muscle mass.[11] She says that a mere 12 minutes of aerobic activity six days a week or 25 minutes three days a week is enough to increase your resting metabolic rate all week long. She advises doing stretching exercises or brisk activity (moderate exercise) if you want to exercise more than 75 minutes a week and recommends house cleaning, gardening, walking, and moderately paced swimming or bicycling as excellent ways to burn fat.

Although it is counter-intuitive to the "calories in with food, fat out with exercise" model you may have been living by, exercise without food can undermine efforts to reduce body fat. When you engage in strenuous exercise before breakfast or after work but before dinner (or at least a linked-and-balanced snack), your body releases adrenal hormones to cause the breakdown of glycogen in the liver so you have sufficient fuel for your exercise.[12] These adrenal hormones cause the release of insulin which can, if excessive, result in fat storage. The hormonal response to exercise without food and prolonged strenuous exercise is the same. After your glycogen stores are used up, fat is not mobilized to be burned for energy, but rather muscle mass is broken down for fuel. Since muscle has a higher metabolic rate than fat, if you lose muscle mass due to over-exercise, your overall resting metabolic rate will decrease, making it more difficult to lose weight.

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9 Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Feel-Good Diet,* (New York: McGraw-Hill, 2007), 177-178.

10 Ibid, 156.

11 Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Insulin Resistance Diet,* (New York: McGraw-Hill, 2001, 2007), 192.

12 This is why I felt less hungry after exercise in the story on page 12 and also was, ironically, part of why I could not lose weight on a standard low-calorie diet weight loss diet.

In *The Feel Good Diet,* Dr. Hart tells about a patient of hers who was a fitness trainer and could not lose weight in spite of following a good linked-and-balanced eating plan. Dr. Hart prescribed a test to determine her best fat-burning zone, and the results showed that she should be exercising at a pulse rate of between 100 and 122 beats per minute for best fat loss, which was 30 to 40 beats per minute less than she usually maintained during exercise. When she began doing all of her exercise at the lower pulse rate, she lost 15 pounds in the next month.[13]

In summary, listen to your body about exercise just as you do about what you eat. Be alert for becoming winded during moderate exercise and slow down if you do. Consider buying a pulse monitoring wrist watch to make sure your pulse is where you want it when you exercise. For moderate exercise your pulse should be well below the target range for aerobic exercise and should remain in a good fat-burning range. If your exercise program makes you hungry, you probably are burning muscle rather than fat; diminish the intensity and time. Before you exercise, have a balanced protein and carbohydrate snack if you get hungry after exercise to avoid setting off a hormonal cascade that will lead to storing fat. Eat properly to keep your insulin level low and stable (which keeps you in the fat burning mode) and make much of your exercise moderate. By applying these principles to your exercise program, you should be able to achieve good fat loss and a healthy weight.

[13] Hart, Cheryle R., MD and Mary Kay Grossman, RD, *The Feel-Good Diet,* (New York: McGraw-Hill, 2007), 180-181.

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