

Chapter One

WELCOME TO THE PROTEIN POWER PLAN

Welcome to a new nutritional strategy—your new prescription for health—one that has helped literally thousands of people like you to successfully lose weight, lower cholesterol and triglycerides, stabilize erratic blood sugar, and reduce blood pressure. If you're among the millions of North Americans who have cut dietary fat to the bone in an attempt to lose weight, reduce cholesterol or triglycerides, or lower blood pressure only to have your efforts rewarded with frustration and failure, you're not alone. If you've done everything you were told to do by carefully following a low-fat, high-carbohydrate diet, struggling to try to reclaim your health and fitness, and failed—stop blaming yourself! You didn't fail at your diet—your diet failed you! Let's see why.

As a society, we've responded to the constant urging of the media—television, newspapers, magazines, talk shows—to reduce dietary fat, cutting our intake by almost 30%. If dietary fat were indeed the culprit behind the many diseases blamed on it, by now we'd be a society of thin, healthy people. But are we? Far from it!

In the 15 to 20 years we've been trimming the fat out of the nation's diet, type II diabetes has tripled and in the last decade alone, obesity has increased by 30%. And now, deaths from stroke and heart disease are back on the rise. Far from solving the health problems that bedevil Americans, the low-fat, high-carbohydrate diet has made them substantially worse. In theory, the low-fat, high-carbohydrate diet seemed like good nutritional advice, but the reality of its results are all around us. More of us are fat today than ever before. More of us suffer blood sugar-related diseases. And more of us die with heart disease or stroke.

What's destroying America's health?

If fat's not the problem, what is? What causes more and more Americans to gain weight? What raises our cholesterol and triglycerides? Why does the incidence of blood sugar-related problems continue to climb? Why do so many of these diseases of modern society seem to occur in groups? Why is it that when people develop a weight problem, they often also struggle with their blood pressure, blood sugar, or cholesterol? How is all this related?

The connecting piece of the puzzle—the thing that ties all these health problems together—is not our intake of dietary fat at all. It's the **hormone insulin**. Insulin is crucial to life in the proper amounts, but detrimental in excessive amounts. Like Goldilocks at the three bears' house, you want the level of

hormone

a substance produced in a gland and released into the blood, that travels through the blood to a distant location in the body, where it causes something to happen

insulin

a hormone secreted by the Islets of Langerhans (in the pancreas) which functions to regulate carbohydrate metabolism by controlling blood glucose levels

hyperinsulinemia

an excessive level of insulin in the blood.

insulin in your body to be neither too high, nor too low, but just right. Unfortunately, about 3 out of 4 Americans produce too much of this hormone when they eat a diet high in carbohydrates (starches and sugars). And it is this **hyperinsulinemia** that actually causes the health problems that afflict so many of us today.

You'll learn more about the relationship between excess insulin and disease in *Chapter Two*. But to understand how too much insulin causes problems, let's take a quick look at how insulin works normally in the body.

How insulin works

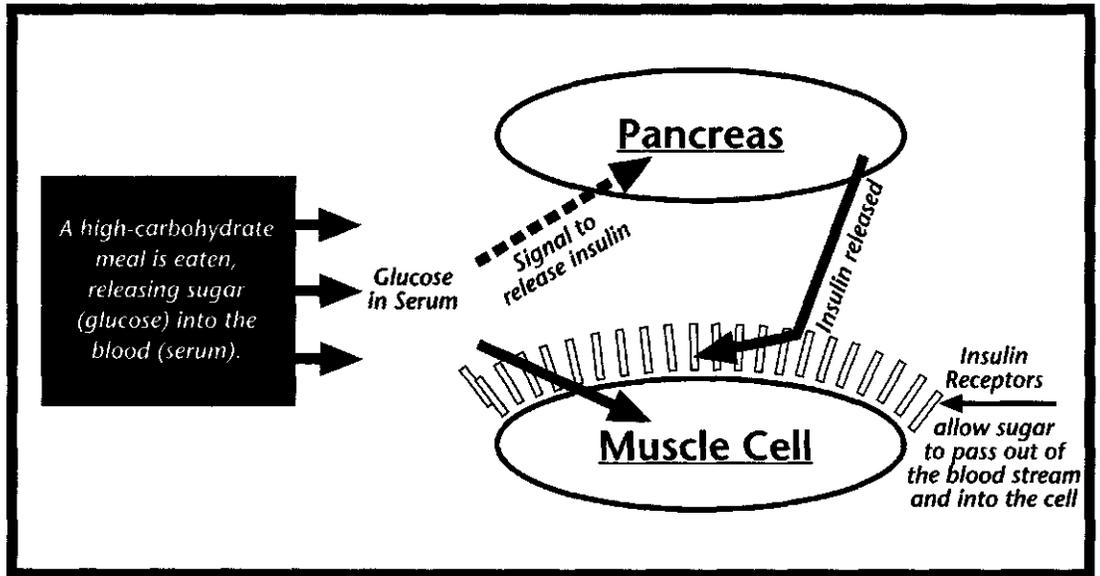
Insulin's chief role in the body is to keep blood sugar within a fairly narrow "comfort" zone—again, neither too high nor too low. Throughout the day, blood sugar rises and falls outside this zone many times, but when it does, the body quickly marshals forces to restore it to a comfortable balance.

glucagon

a pancreatic hormone that raises blood sugar levels

When blood sugar goes up, such as after a starchy meal or sugary beverage, the body releases insulin to bring it back down. When it falls too low, as it may over night or if you go too long without eating during the day, the body releases another hormone—**glucagon**—to bring the level back up to normal.

NORMAL INSULIN



2

insulin receptors

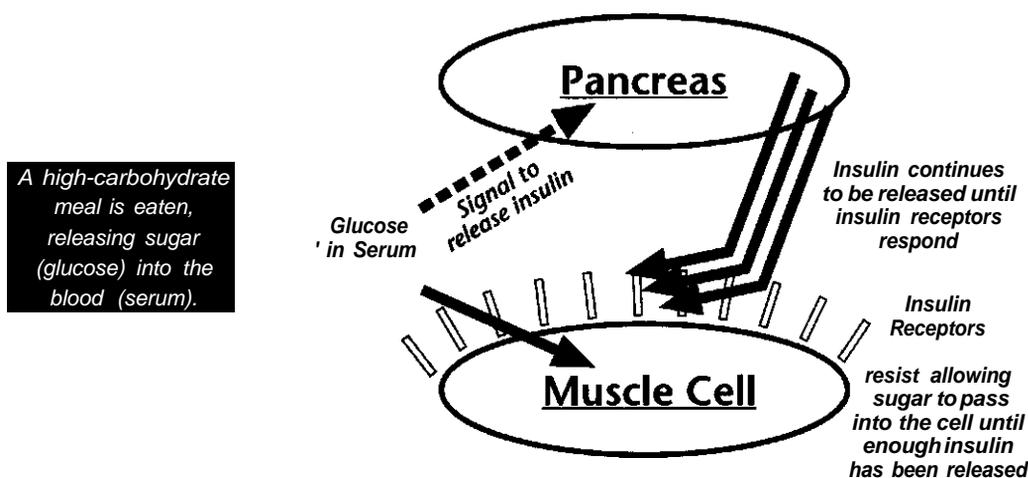
structures that are stimulated by insulin and function to get the sugar out of the blood stream and into the cells for use or storage

Think of insulin as a chemical messenger, capable of "talking" to various tissues in the body that have built-in receivers for insulin's messages. These receivers, called **insulin receptors**, lie on the surfaces of muscle, liver, and fat cells as well as certain cells in the kidney and in the appetite control center of the brain.

If the system is working normally, when blood sugar rises, it sends a signal to the pancreas to release insulin into the blood. Once there, it attaches to the insulin receptors on the surface of the cells and causes a change that allows the sugar to leave the blood and go inside the cell. Consequently, the blood sugar level falls back into the comfort zone, turning off the signal to release insulin,

and harmony is restored. But as we age, for at least 3 out of 4 Americans, the system doesn't work so normally anymore.

INSULIN-RESISTANT STATE



Some people have an exaggerated release of insulin when their blood sugar rises, and after a time, this excess begins to dull the response of the insulin receptors. This condition is termed insulin resistance. When their blood sugar rises, their pancreas releases insulin, it attaches to the receptors, but nothing happens. The pancreas, sensing that blood sugar remains out of the comfort zone, releases more and more insulin, until finally it overcomes the resistance of the receptors and the sugar moves out of the blood and into the cells.

It's much like trying to open a rusty door—you can do it, but it takes a lot more force to get it to move. The receptors can still be made to work, it just takes a huge amount of insulin to get through to them. And when that excess insulin has done its job of restoring the blood sugar to the comfort zone, it's free to roam through the body transmitting messages to other tissues.

What other messages does insulin carry?

When insulin "talks" to these other tissues, what does it say?

- Insulin tells the *kidney* to hold on to salt (sodium) and where salt goes, fluid follows. The result is *fluid retention*.
- Insulin causes an increase in thickness and constriction in the *artery walls*. Coupled with excess fluid, much like crimping the end of a water hose, constriction can lead to *high blood pressure*.
- In the *liver*, insulin stimulates the production of *excess cholesterol and triglycerides*.

- To *fat cells*, insulin carries the message to *store fat* and prevents the fat cell from giving up its contents to burn for energy.
- In the *muscles*, which rely on burning fat (triglycerides) as their preferred energy source, insulin *blocks the effective burning of fat* for energy by keeping it from moving into the cellular furnaces (called mitochondria).

Insulin is counterbalanced by its partner hormone — glucagon — which acts in every way opposite to insulin. If insulin says up — glucagon says down. Restoring a closer balance between these two crucial metabolic hormones is the goal of *The Protein Power Plan*.

Why low-fat, high-carbohydrate diets are destined to fail

Why has the low-fat, high-carbohydrate diet failed so miserably to solve our health woes? Why wouldn't cutting dietary fat solve these problems? Easy — because fat isn't the culprit.

You see, we didn't merely take the fat out of our diets, we replaced fat with something else: carbohydrate. We've become a society of starch and sugar eaters, and as you'll see in the next chapter, the metabolic consequence of substituting carbohydrate for fat has caused a world of health problems. Current nutritional "wisdom" has neglected to consider the metabolic effect of the various foods we eat. We'll explore this concept in greater detail in Chapter Two.

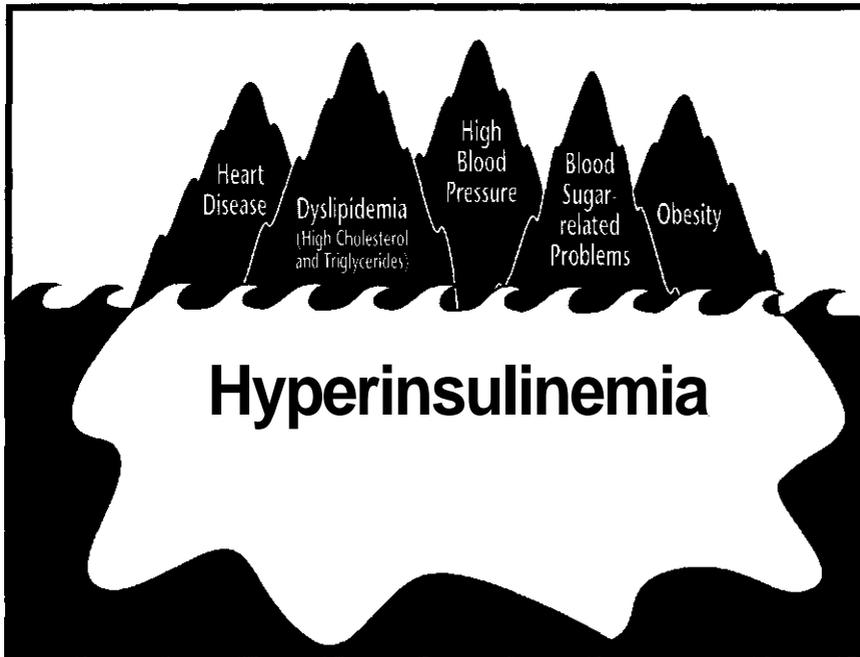
Checklist: Have you been on the wrong diet for you?

Answer the following questions to determine whether you've been on the wrong diet.

1. Have you gained weight on a low-fat diet? Yes No
2. While following a low-fat diet, did your cholesterol rise? Yes No
3. While following a low-fat diet, did your triglycerides rise? Yes No
4. Did you develop fluid retention or high blood pressure while following a low-fat diet? Yes No
5. If female, during pregnancy did you develop gestational diabetes or toxemia? Yes No
6. Do you suffer an energy slump in the middle of the morning following a low-fat, high-carbohydrate breakfast? Yes No
7. After a low-fat, high-carbohydrate lunch, do you become sleepy? Yes No
8. Do you tend to gain weight around your mid-section? Yes No

Chapter Two

THE INSULIN CONNECTION- GOING STRAIGHT TO THE SOURCE OF THE PROBLEM



Think of the disorders related to too much insulin as the tips of a large iceberg, afloat in the sea. The tips could be labeled heart disease, **dyslipidemia**, obesity, high blood pressure, gout, sleep apnea—more and more tips seem to sprout every day. Call the giant mass of ice hidden below the water's surface, hyperinsulinemia and you'll have a better idea of the relationship between insulin and disease. For years medical science has focused on the visible part of the iceberg, diligently chipping away at the tips, while ignoring the vast dangerous mass of ice beneath the waves.

dyslipidemia
the medical term
for high cholesterol
and triglycerides

If excess insulin is the problem, then reducing insulin must be the answer. How can we go about doing that? With food! Food is the tool that will restore harmony to your harried metabolism. *The Protein Power Plan* is a diet designed to feed your body what it must have and limit what's taking it out of line—in effect, a return to the kind of diet we were designed by nature to thrive on.

The solution is so simple—if you give your body the nutritional tools it needs and then get out of its way, your body will use these tools to heal you! To better understand how, let's back up and take a look at what food is and how it influ-

- **Starches**—corn, wheat, flours and meals, potatoes, rice, and beans are truly nothing more than sugars in disguise. All starches are nothing more than lots of glucose (sugar) molecules hooked together in long chains. It is the business of your digestive system to break the links that hold the chains together so that you can absorb the simple sugar they contain. They are quickly broken into their most basic unit—glucose—and as a result, they too can quickly raise blood sugar levels.



Fiber—like starch, is also long chains of sugar molecules hooked together, but the links are forged in a way that our digestive systems cannot break. Since we have no means to extract the glucose from fiber, it cannot be absorbed into the blood, and so it cannot cause an increase in blood sugar.



Water

- absorbed in the colon almost completely, benefits the body in replacing fluid loss every day and is used in millions of chemical processes in the body.

The effect of food on our metabolism

No food is free—there's a metabolic consequence to every bite you eat. It may be a good one, or it may be a disastrous one, but one thing is certain: when you eat, something's going to happen. If you hope to harness your metabolism and make it work *for* you instead of *against* you, it's important that you learn a few simple rules about what happens when you eat.

If all food can be described as being made of three basic nutrient components—protein, carbohydrate, and fat—how do these influence the two crucial metabolic hormones: insulin and glucagon?

Insulin/Glucagon Response Table		
NUTRIENT	INSULIN	GLUCAGON
<i>Carbohydrate</i>	↑ goes up rapidly	↔↓ stays the same or falls
<i>Protein</i>	↑ goes up slightly	↑ goes up slightly
<i>Fat</i>	↔ no effect	↔ no effect
<i>Water</i>	↔ no effect	↔ no effect
<i>Fiber</i>	↔ no effect	↔ no effect

Now that you know how food effects the hormones, let's look a little closer at what you may have been eating, certainly what most of us have been told we should eat.

Examine the metabolic effect of the diet you've been eating

Using the chart above, fill out this checklist of foods you have typically been eating *before* beginning *The Protein Power Plan*. Write in your most recent meals and circle the effect it would have on your insulin and glucagon levels.

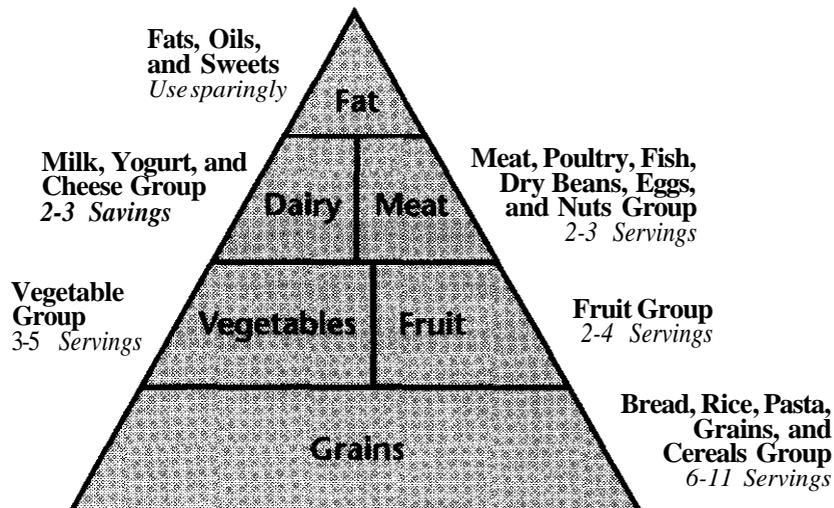
TYPICAL MEAL—BEFORE THE PROTEIN POWER PLAN	EFFECT ON INSULIN	EFFECT ON GLUCAGON
<i>Breakfast</i>	↑ ↑ ↓ ↔	↑ ↑ ↓ ↔

<i>Lunch</i>	↑ ↑ ↓ ↔	↑ ↑ ↓ ↔

<i>Dinner</i>	↑ ↑ ↓ ↔	↑ ↑ ↓ ↔

The problem with the food pyramid

The USDA Food Pyramid



According to the U.S. Department of Agriculture (USDA) food pyramid, we should eat a diet consisting of approximately:

- 60% carbohydrate,
- 15% protein, and
- 25% or less fat.

Refer again to the "Insulin/Glucagon Response Table." What effect does eating fat have on your insulin level? That's correct—zero, none. So why the stringent limit on fat?

And what about protein—from meat, fish, poultry, eggs, dairy? Again, we're told to eat a modest portion of these foods. And when you check the "Insulin/Glucagon Response Table," you'll find that protein brings about a balanced rise in both insulin and glucagon; it is in fact, the *only* nutrient that, by itself, leads to a rise in glucagon—the hormone critical to effectively burning fat for energy.

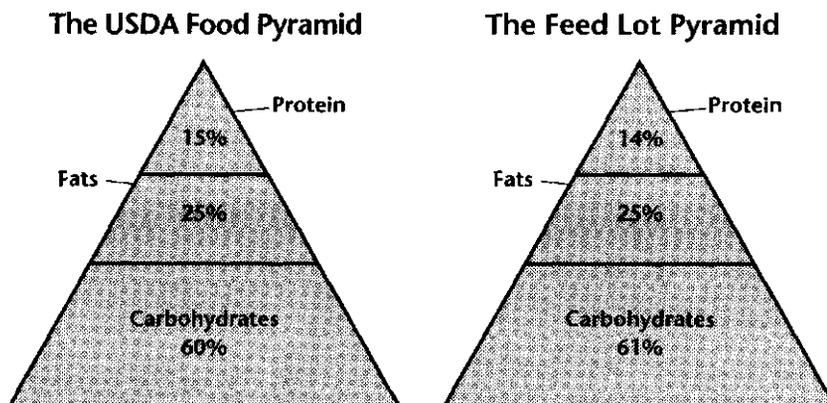
But look at the big bottom of the pyramid—where it says 6 to 11 servings of bread, cereal, or pasta daily. Check the "Insulin/Glucagon Response Table." What effect will all those carbohydrates have on your insulin level? That's right. They'll send it shooting upward.

Now let's think about this for a minute. If too much insulin is the problem, how can recommending a diet that will further increase your insulin solve that problem? Quite simply, it can't. It's like pouring gasoline on a fire to put it out and wondering why the flames shoot higher.

Food pyramid or feed pyramid?

The fact that carbohydrates make you fatter is not news to farmers. For centuries they have used carbohydrates to fatten cattle and hogs. That got us thinking: what exactly is the composition of the feed used to fatten livestock? We made a trip to our local farmers' co-operative to see, and here's what we

found. On the right, you'll see a construction of the Feed Lot Pyramid recommended by the USDA to fatten hogs. It's 61% carbohydrate, 29% fat, and 10% protein. Compare it to the pyramid on the left. The USDA Food Pyramid—the one that's supposed to keep us slim and healthy.



Look familiar? It should. The two are virtually identical. Now does it surprise you that a low-fat, high-carbohydrate diet fattened you up?

The myth of carbohydrates

You've heard over and over from newspapers, magazines, and television talk shows that you should load up on "complex carbohydrates" like whole-grain breads, cereal, and pasta. And that these foods form the basis for a "healthy" diet. So how much carbohydrate do you actually need to eat each day?

The answer may surprise you. Your daily requirement for carbohydrate is **zero!** That's right—none, nada, zippo! (Were you to make a search of all the textbooks in any medical library, you will find no diseases of "carbohydrate deficiency"; however, you will find diseases caused by both protein deficiency and fat deficiency.) That's why it has never made sense to us to load up on carbohydrates—which your body really doesn't need—at the expense of fat and protein—which your body truly *does* need.

Why don't you need carbohydrate? Your body—actually your liver—has the ability to take dietary protein or fat (or your own body fat) and make glucose from it. As a matter of fact, the body actually prefers to fuel itself with dietary or stored fat or with ketones (a by-product of fat burning) over glucose.

As incredible as it may sound, you could do quite nicely without ever eating another bite of starch or sugar. In fact, as we mentioned in the introduction, traditional Eskimos (isolated bands that continue to live an almost stone-age existence, untainted by Western civilized culture) eat no carbohydrate at all for a large portion of the year.

In their part of the world, during the long winter, there is no vegetation whatsoever. Consequently, the traditional Eskimo diet is primarily caribou meat and fat, fish, and water. And on that limited diet, they remain lean, healthy, and free of the diseases that afflict "civilized" people, such as heart disease and dia-

betes. If you're wondering how this is possible on a diet almost entirely of meat and fat, refer again to the "Insulin/Glucagon Response Table." Let's go through that exercise again with the Eskimo diet, containing meat, fat, and water:

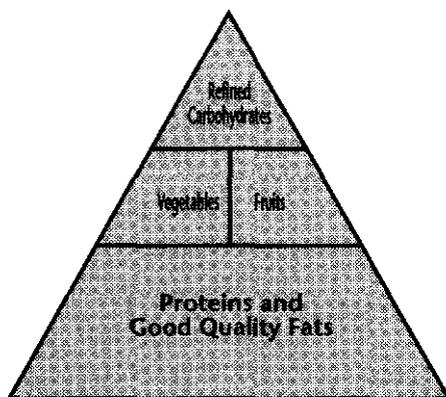
- Meat or fish - mainly made of protein and fat. The effect of protein on insulin and glucagon is balanced rises in both hormones. Metabolic harmony.
- Fat - virtually no effect on either insulin or glucagon.
- Water - no effect on either insulin or glucagon.
- Carbohydrate — they don't eat any, so it can't cause a rise in insulin.
- The net result? A balanced metabolic system.
- Consequences? No obesity, heart disease, or blood sugar-related diseases.

Does that mean that you should eat a diet without any carbohydrate? Not necessarily. Although a fresh meat diet—such as the Eskimos eat—provides all the essential vitamins and minerals needed for good health, it can become monotonous. Also prolonged cooking of meat can rob it of vitamin nutrients. For these reasons, *The Protein Power Plan* encourages you to eat colorful vegetables, greens, and certain fruits for the beneficial vitamins, minerals, and cancer-fighting phytochemicals they contain.

Because the program is so personalized to your particular needs, it's difficult to illustrate exactly how our pyramid would look. It would be different for each individual.

But, if we were to create a *Protein Power Plan Pyramid*, here is how it would look:

The Protein Power Plan Pyramid



Pop Quiz: Test your new nutritional knowledge

Are the following statements true? or false?

- _____ 1. Humans can survive nicely without eating any carbohydrate whatsoever.
- _____ 2. When you eat a potato, your body breaks it into simple sugar (glucose) quickly.
- _____ 3. Good sources of protein are meat, fish, and poultry.
- _____ 4. Anything made of wheat or corn—including pasta, bread, crackers, bagels, or chips—would cause a rise in blood sugar and insulin.
- _____ 5. The total carbohydrate of foods is the sum of the sugars, starches, and fiber they contain.
- _____ 6. Eating protein causes a moderate rise in both insulin and glucagon—a balanced effect.
- _____ 7. The diet the USDA recommends—as shown in the USDA Food Pyramid—is almost identical to the balance of nutrients used to fatten cattle and hogs on the feed lot.
- _____ 8. Fat has virtually no effect on blood sugar, insulin, or glucagon.
- _____ 9. As many as 3 out of 4 Americans have a tendency to overproduce insulin when they follow the "recommended" low-fat, high-carbohydrate diet.
10. Based on a recent Harris poll, 3 out of 4 adult Americans are overweight to some degree.

Chapter Three

GOOD HEALTH FROM ADEQUATE PROTEIN, LOW-CARBOHYDRATE EATING- SIDE EFFECTS You CAN LIVE WITH

Good health should always be your goal in making any nutritional change, and we urge you to make this your primary focus as you begin *The Protein Power Plan*. We designed your nutritional prescription to restore and maintain your health and fitness. As a pleasant side benefit—if you follow the plan—you will lose excess body fat, too.

In order to optimize the potency of this plan, simply remember these two cardinal rules:

- Always meet your protein requirement.
- Never exceed your carbohydrate limit.

13

Why is protein so important to you?

The human body is mainly made of protein—your hair, skin, nails, blood, muscles, organs, ligaments, bones, immune system, nerves—all of it—made of protein. Just in the course of living, these tissues break down, wear out, and must be regularly replaced and repaired. To do that job, you must provide your body with a steady supply of high-quality protein every day. (You'll learn in *Chapter Five* how to determine your own minimum daily protein requirement.)

Meeting your individual protein requirement is crucial to your success on *The Protein Power Plan*. Too often in our clinical practice we see patients skimp on their protein intake in the mistaken belief that fewer calories will make them lose weight faster. Calories do matter. But when you're trying to encourage your own stored fat to burn, skimping on protein works against you. Here's why.

- **Protein keeps your metabolic rate high.** The body understands that protein is its most critical nutrient. And the body keys its metabolic rate (the number of calories it uses each day) to the amount of incoming protein it receives.
- **Protein satisfies your appetite.** The meal interval—meaning the length of time your appetite is satisfied between meals—depends on the quality and quantity of the protein in your most recent meal.

- **Protein preserves your lean body mass.** Your lean body—that's every part of you except the fat—is what uses calories. The more your lean body weighs, the more calories it takes in a day to run it. If you skimp on protein, you may lose some of these metabolically active pounds. Remember, losing *weight* is not your goal. You want only to lose excess *fat*.

The benefits of preserving your lean body

Have you ever known someone who lost a fair amount of weight on a low-fat, low-calorie diet? More than likely, they looked haggard and gaunt, with sagging, pasty skin and lackluster hair. This haggard appearance comes from not eating enough good quality protein to rebuild the tissues that break down naturally—just from living.

The body also requires protein to manufacture critical chemicals, such as enzymes. When there's not enough protein in the diet to do the job, the body will begin to consume itself, breaking down its muscles and lean organs for the raw materials it needs. Self-preservation dictates that it will begin with the least important muscles. So the facial muscles go early on, giving the face a sagging, older appearance. Not far behind are the shoulder and arm muscles. By the time the diet is over, the supportive infrastructure is lost and the skin just seems to hang on the frame.

14

Maybe you've seen that happen or even fear your weight loss will make you feel and look older than you are. Don't worry. If you carefully follow the nutritional prescription outlined for you in *The Protein Power Plan*, you'll always get plenty of good quality protein to preserve even the small muscles of your face. Our patients routinely say that friends ask what new facial care system or cosmetic wonder they've found—that they look 10 years younger!

With *The Protein Power Plan* tailored to your specific nutritional needs, you can build a lean, strong, more youthful-appearing body and never miss a meal! Imagine yourself as you'll be, with lustrous hair, strong nails, clear skin, and a lean, strong, muscular body.

And your improved appearance is only the beginning! Let's look at what else *The Protein Power Plan* can do for you.

Health benefits of Protein Power eating

• Lower Cholesterol

Have you been struggling with a low-fat diet, practically going no-fat in an effort to reduce your cholesterol and not getting the results you want? Although it seems reasonable that cutting dietary fat and cholesterol should lower cholesterol, in reality, the fat you eat has very little to do with the level

of cholesterol in your blood. Only about 20% of the cholesterol found in blood comes from the diet; the lion's share comes from within. Your own liver is a cholesterol production factory.

Although most people mistakenly think of cholesterol as only bad—something to be "gotten down" to as low a number as possible—that's not really a fair picture. Cholesterol is a critical raw material for the body. It gives shape and structure to every cell. The nerves and brain are rich in it. Cholesterol is the basic compound the body uses to make important hormones, such as estrogen, **testosterone, pregnenolone, DHEA, and cortisol**. Without sufficient cholesterol, you would sicken and die. Having too low a cholesterol reading is as dangerous as having too high a reading. Ideally, you would like your cholesterol in the 180 to 220 range.

The cholesterol-manufacturing machinery of the liver is like a production line: raw materials enter at one end, are altered in a series of steps, and the finished product—cholesterol—exits at the other end. The crucial step along the way—called the rate-limiting step—is under the control of insulin. When insulin levels are high, the liver is told to produce more cholesterol. By bringing insulin levels down, you can lower your production of cholesterol, and significantly reduce the amount in your blood.

The Protein Power Plan will quickly bring your insulin levels down and before long, you'll be rewarded with a cholesterol reading in the normal range.

• Higher levels of "good" HDL cholesterol

Eating a low-fat diet has been repeatedly shown to lower the level of the "good" cholesterol in your blood—a "bad" effect that comes from eating too little good quality fat. "Good" cholesterol exerts a protective effect against heart disease. Low levels of good HDL cholesterol—in the absence of any other risk factors—are now considered a marker for heart disease risk.

On *The Protein Power Plan*, you'll be encouraged to eat more good quality fats—nuts, seeds, olives, avocados, butter, and fish oil—to raise your "good" cholesterol levels, another way you'll reduce your risk for heart disease.

• Lower triglycerides

Long thought to be harmless, elevated *triglycerides* are now considered a major risk factor for the development of heart disease. In our clinic we find that the triglyceride levels along with the levels of HDL ("good" cholesterol) are the most sensitive indicators of excess insulin levels in our patients.

Eating a low-fat, high-carbohydrate diet can raise your triglyceride levels. The way to reduce elevated triglyceride levels quickly is to reduce the starches and sugars in your diet.

A growing number of medical researchers now believe that the lab measurement that most correctly predicts the development of heart disease is *not* the amount of cholesterol in your blood but the level of triglyceride *divided by* the level of HDL. The lower this number is, the lower your risk of heart disease.

estrogen
any of several hormones produced chiefly by the ovaries that act to regulate certain female reproductive functions and maintain female reproductive tissue

testosterone
a steroid hormone responsible for the development of male secondary sex characteristics

pregnenolone
a "mother" hormone for estrogen and testosterone, DHEA, cortisol, and progesterone

15

DHEA
a "mother" hormone for estrogen and testosterone, thought to be an "anti-aging" hormone

cortisol
the body's natural stress hormone, cortisol is naturally released in response to physically or emotionally stressful situations

triglycerides
fat molecules in the blood

We commonly find patients coming into our clinic with triglyceride levels of 300 and HDL levels of 30. These values would give a ratio of 300/30, or 10, a dangerously high number. By following *The Protein Power Plan*, these patients reduce their triglycerides to 100, or below and raise their HDL levels to 40, a much better number. In just a few weeks, their ratio is reduced to 2.5 (100/40), which they could probably never achieve on a low-fat, high-carbohydrate diet.

If you've been struggling with your triglycerides and meeting with little success, your search for a solution is over! Once you start *The Protein Power Plan*, you'll be rewarded with dramatic reductions in triglycerides in only a few weeks.

As your insulin levels return to normal, the incorrect message insulin was sending to your liver to produce excess cholesterol will diminish. Although you won't be able to feel the difference in your cholesterol levels, you can take heart in knowing that very soon they will stabilize in the normal range. Your level of good HDL cholesterol will rise and as it does, your risk of developing heart disease will fall. You may even look forward to your next cholesterol blood test.

• **Reduced risk of heart disease**

Elevated insulin levels increase the risk of heart disease in a number of ways. We've already discussed the way insulin causes increased levels of cholesterol and triglycerides in the blood and decreased levels of the good, protective HDL cholesterol—all of which increase the risk of developing heart disease.

Increased blood levels of insulin also cause the walls of the arteries that carry blood to the heart to thicken. This leads to decreased blood flow and a greater probability of a blockage formation. Too much insulin also causes the blood to be more prone to clot and form blockages. Insulin also causes—in a way not clearly understood—a reduction in the body's production of DHEA, an important hormone that helps protect the heart.

• **Lower blood pressure**

Elevated levels of insulin may increase your risk for high blood pressure in the following two ways:

1. By causing you to retain an excess amount of salt and fluid and/or
2. By increasing the tendency for your arteries to constrict.

When you begin *The Protein Power Plan*, your insulin levels will fall. As they do, your kidneys will finally be able to release the excess salt and fluid they've been retaining.

You can say goodbye to tight rings and puffy eyes. And what's better, you can say goodbye to elevated blood pressure. With loss of fluid that comes from lowering insulin levels, your blood pressure will begin to return to normal—sometimes within just a few weeks. (**Caution:** If you're taking blood pressure medication—especially a water pill or diuretic—you'll need to consult with your physician to help you alter your dosage as necessary. You should never alter or stop taking this medication without speaking to your doctor first.)

• **Stable blood sugar**

When everything works as it should, insulin works to keep blood sugar within a narrow comfort zone by driving the sugar from the blood and into the cells. Eating a meal heavy in starch or sugar will cause your blood sugar to climb quickly. And when that blood sugar rise stimulates the release of too much insulin—as it may in as many as 3 out of 4 of us—the blood sugar may fall too low. This may bring on symptoms of headache, nausea, clamminess, and sleepiness.

But even in the absence of such obvious symptoms of low blood sugar, a falling blood sugar level is a potent signal to eat! As your blood sugar falls, you become hungry...then you eat a starchy or sugary snack and your blood sugar goes too high...then you release too much insulin in response to that rise in blood sugar and your blood sugar falls too low...and you get hungry...and before you know it you're on the blood sugar roller coaster.

When you eat protein instead of starchy, sugary snacks, it breaks down slowly. It keeps your blood sugar even, and that's one of the reasons that you should make protein the cornerstone of each meal. Once you learn to eat *The Protein Power Plan* way, your blood sugar will remain stable. No big swings up to inspire too much insulin output—and no sharp falls down to make you crave something starchy or sugary to pull you out of the slump. If you're like many of our patients, you'll be able to say goodbye to carbohydrate cravings. Food will no longer be the center of your life.

Checklist: Are you at risk for an insulin-related problem?

Does your family history put you at risk for an insulin problem? Answer yes or no to the following statements:

One or more of my parents and/or grandparents have/had

- high blood pressure Yes No
- elevated triglycerides Yes No
- elevated cholesterol Yes No
- diabetes mellitus Yes No
- a heart attack Yes No
- gout Yes No

If you see a pattern of these disorders in your family, it's more important than ever for you to get going on *The Protein Power Plan*.

Chapter Four

YOUR PROTEIN POWER PLAN: GETTING STARTED

In this chapter...

It's time we got started laying the foundation for your new *Personal Protein Power Plan*. In this chapter we will be doing a few worksheets, taking some measurements and doing some calculations.

When we're finished...

You will have completed "Your Personal Health Inventory Worksheet." And you'll have a list of all the tests you need from your doctor to complete your "before" health picture. In addition, in just three simple steps, you will have calculated the following:

Your Waist to Hip Ratio

Based on where you carry your excess weight, this measurement will tell you whether you may be at risk for developing any of the hyperinsulinemia disorders we've discussed.

Your Body Composition: Body Fat vs. Lean Body Mass

Through these simple exercises, you will learn the weight and the percentage of your body fat and your lean body mass (combined weight of your muscles, bones, organs, blood, hair, skin, and nails).

Your Ideal Weight Range

This is critical in helping you set practical, achievable goals. And you won't have to rely on some unrealistic, statistically-based chart. This will be based, in part, on your own body composition.

And you'll have everything you need to determine both your Daily Protein Requirement and your Daily Carbohydrate Maximum. You'll learn more about them in *Chapter Six*.

All you're going to need is...

- a pencil,
- a cloth measuring tape,
- a scale, and
- a calculator, if you'd like to use one.

Your personal health inventory worksheet

Complete the following. It will give you some idea of your risk for encountering any hyperinsulinemia-related disorders.

1. Do you have adult-onset diabetes? Yes No
2. Did you develop adult-onset diabetes during pregnancy? Yes No
3. Do you have elevated triglycerides? Yes No
4. Do you have a low level of HDL ("good") cholesterol? Yes No
5. Are you overweight mainly around the middle? Yes No

6. Do you have high blood pressure? Yes No
7. Do you have elevated cholesterol? Yes No
8. Do you retain fluid? Yes No
9. Do/Did either of your parents have adult-onset diabetes? Yes No
10. Do you frequently crave sugar and/or starchy foods? Yes No

11. Do/Did either of your parents have high blood pressure? Yes No
12. Do/Did either of your parents have heart disease? Yes No
13. Are you obese (more than 20% overfat)? Yes No

20

Questions 1-5 If you answered, "Yes" to any of these questions, you run a **very high risk** of having/developing an insulin-related disorder.

Questions 6-10 If you answered, "Yes" to any of these questions, you run a **high risk** of having/developing an insulin-related disorder.

Questions 11-13 If you answered, "Yes" to any of these questions, you run a **moderately high risk** of having/developing an insulin-related disorder.

Summary: The more "Yes" responses you have, the greater your risk of having/developing an insulin-related disorder.

Your "before" picture

You should also consider having the following lab tests performed. They will help you gauge your current health as well as give you a way to measure your progress—a sort of "before" picture of your metabolism.

Ask your doctor to check for the following:

Serum Insulin	SMA-24 (or Chemistry Profile)
Lipid Profile (cholesterol)	hemoglobin A1c
12-Lead Electrocardiogram	Urinalysis
CBC (Complete Blood Count)	Thyroid Panel

Where do you carry excess weight?

If you're used to the traditional approach to weight loss plans, you're probably used to worrying about *how much* excess weight you're carrying so this may seem an odd question. But in this instance the answer to where you carry your weight is going to help you to determine the ratio of lean muscle mass to body fat. This information can tell you if your weight poses any undo threat to your health.

What you want to know is whether you carry your weight more around your abdomen or around your hips and thighs. For many, answering this question might just be a matter of looking at yourself in the mirror. But for others it's a more subtle distinction. Either way, please complete this simple calculation to see which category you fall into.

When fat gathers at the abdominal region, it tends to be found not only under the skin, but in and around the abdominal organs as well. It can be distributed around the heart, kidneys, liver, and intestine. It has even been known to collect inside these organs. This is more commonly observed in men than women.

Fat around the hips and thighs, on the other hand is found just underneath the skin and is not as dangerous since, in these areas, there are no vital organs for it to surround.

If you fall into the abdominal pattern group, you may run a higher risk of insulin-related disorders than those with the hip and leg pattern. It's not an absolute, but if you are in the former category, it's one more reason to consider speaking with your physician about your blood insulin levels. Women who store fat in the legs and hips sometimes develop an abdominal pattern as they get older and especially as they enter menopause.

Measuring Instructions

- We ask you to take your measurements three times and average them because there is a fairly wide margin for error with just one measurement. It's very easy to take it differently or in a slightly different place. By averaging, your measurement is more accurate.
- You should take your measurements in as little clothing as possible (if any). You want the tape as close to the skin as you can get it. As you progress on the program, it will be easier to compare your measurements if you are not wearing something different each time.
- Be sure to keep the tape snug against your skin, but not so tight you make the skin around it bulge.
- Be brutally honest! If you cheat on your measurements, you will only cheat yourself in the long run!

Weighing Instructions

- Always weigh yourself first thing in the morning, after you've emptied your bladder, but before you've had any coffee or any food.
- Weigh yourself just once, don't keep getting off and back on the scale to get a better reading.
- Stand up straight when you are on the scale. Do not lean your body forward or back, it will throw your reading off.
- Weigh yourself with the scale in the same place on the same surface every time.
- The same goes for weighing as for measuring—be brutally honest! Don't cheat yourself!

22

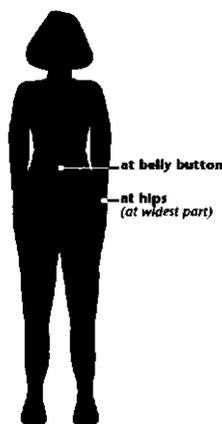
STEP ONE

Calculate your "waist-to-hip" ratio

The waist-to-hip ratio is one way to more accurately figure out which group (the abdominal pattern or the hip and leg pattern) you fall into. Here's how you figure this out. You'll need your pencil and tape measure (and your calculator if you want).

Waist to Hip Ratio Calculation Worksheet

1. Take your waist measurement right around your belly button line 3 times and write it in the spaces provided on the next page.
2. Take your hip measurement around the widest part (where you get the highest reading) 3 times and write in the spaces provided below.
3. Average your measurements. (Add up the waist measurements and divide by three, then do the same with the hip measurements.)
4. Divide your average waist measurement by your average hip measurement. That number will be your Waist-to-Hip ratio.
5. Refer to the Waist-to-Hip Ratio chart. Check off whether you fall into the abdominal pattern or the hip and leg pattern.



Waist Measurements

1st
Measurement _____ inches

2nd
Measurement _____ inches

3rd
Measurement + _____ inches

Total = _____ inches

÷ 3

Average = _____ inches

Hip Measurements

1st
Measurement _____ inches

2nd
Measurement _____ inches

3rd
Measurement + _____ inches

Total = _____ inches

÷ 3

Average = _____ inches

Waist-to-Hip Ratio

average waist _____ inches

average hip ÷ _____ inches

waist-to-hip ratio _____

Waist-to-Hip Ratios

<i>Sex</i>	<i>Ratio</i>	<i>Pattern</i>
men	less than 1	<input type="checkbox"/> hip and leg pattern
	1 or more	<input type="checkbox"/> abdominal pattern
women	0.8 or less	<input type="checkbox"/> hip and leg pattern
	more than 0.8	<input type="checkbox"/> abdominal pattern

23

Credit: Bjorntorp, P., "Regional Obesity", in *Obesity*, Bjorntorp, P. and Brodoff, B., Eds., J.B. Lippincott Co.: Philadelphia, 1992

STEP TWO

Determine your body composition— body fat to lean body mass

Men and women will do this calculation differently. What we will end up with at the end of this calculation is the percentage of your body that is fat and the percentage that is lean body mass. Then we'll take it a step further to find the weight of your body fat and the weight of your lean body mass.

These calculations will also build to the next step: calculating your ideal body weight.

Women: Body Composition Calculation Worksheet

1. Write your average hip and waist measurements from page 23 in the spaces provided below.
2. Use the measuring tape to measure your height in inches and write it in the space provided.*
3. Write your Total Body Weight in the space provided.
4. Refer to the "Conversion Constants Body Fat Percentage Table" on pages 25 and 26. Using your average hip and waist measurements and your height, locate the corresponding Conversion Constants. Write your Conversion Constants (A, B, and C) in the spaces provided below.
5. Add Conversion Constants A and B together.
6. Subtract Conversion Constant C from that number. The new number is your *Body Fat Percentage*.
7. Multiply your Body Fat Percentage (write as a decimal number, i.e. 25% would be .25, 50% would be .50) by your Total Body Weight. That new number is your *Body Fat Weight*.
8. Subtract that number from your Total Body Weight. The new number is your total *Lean Body Mass* (also referred to as your Lean Body Weight).

* You may think you know your height, but humor us and measure anyway. Many of us have not measured our height since high school and our height *does* change slightly as we get older. If your tape is not long enough, you may have to resort to the method your mom used when you were a kid. Find a wall and make a "ruler" on it. We're not kidding! We need you to be as accurate as possible!

24

Measurements

Average Hip _____

Average Waist _____

Height _____

Weight _____

Determining Body Fat Percentage

Constant A _____ (hips)

Constant B + _____ (abdomen)

Total = _____

Constant C - _____ (height)

Body Fat Percentage = _____%

Determining Body Fat Weight

Body Fat Percentage = _____

Total Body Weight x _____

Body Fat Weight = _____

Determining Body Fat Mass

Total Body Weight _____

Body Fat Weight - _____

Lean Body Mass = _____

Conversion Constants to Predict Percentage of **Body Fat**: Women

HIPS		ABDOMEN (WAIST)		HEIGHT	
<i>Inches</i>	<i>Constant A</i>	<i>Inches</i>	<i>Constant B</i>	<i>Inches</i>	<i>Constant C</i>
30	33.48	20	14.22	55	33.52
30.5	33.83	20.5	14.40	55.5	33.67
31	34.87	21	14.93	56	34.13
31.5	35.22	21.5	15.11	56.5	34.28
32	36.27	22	15.64	57	34.74
32.5	36.62	22.5	15.82	57.5	34.89
33	37.67	23	16.35	58	35.35
33.5	38.02	23.5	16.53	58.5	35.50
34	39.06	24	17.06	59	35.96
34.5	39.41	24.5	17.24	59.5	36.11
35	40.46	25	17.78	60	36.57
35.5	40.81	25.5	17.96	60.5	36.72
36	41.86	26	18.49	61	37.18
36.5	42.21	26.5	18.67	61.5	37.33
37	43.25	27	19.20	62	37.79
37.5	43.60	27.5	19.38	62.5	37.94
38	44.65	28	19.91	63	38.40
38.5	45.00	28.5	20.09	63.5	38.55
39	46.05	29	20.62	64	39.01
39.5	46.40	29.5	20.80	64.5	39.16
40	47.44	30	21.33	65	39.62
40.5	47.79	30.5	21.51	65.5	39.77
41	48.84	31	22.04	66	40.23
41.5	49.19	31.5	22.22	66.5	40.38
42	50.24	32	22.75	67	40.84
42.5	50.59	32.5	22.93	67.5	40.99
43	51.64	33	23.46	68	41.45
43.5	51.99	33.5	23.64	68.5	41.60
44	53.03	34	24.18	69	42.06
44.5	53.41	34.5	24.36	69.5	42.21
45	54.53	35	24.89	70	42.67

(continued)

Conversion Constants to Predict Percentage of Body Fat: Women (continued)

<i>HIPS</i>		<i>ABDOMEN (WAIST)</i>		<i>HEIGHT</i>	
<i>Inches</i>	<i>Constant A</i>	<i>Inches</i>	<i>Constant B</i>	<i>Inches</i>	<i>Constant C</i>
45.5	54.86	35.5	25.07	70.5	42.82
46	55.83	36	25.60	71	43.28
46.5	56.18	36.5	25.78	71.5	43.43
47	57.22	37	26.31	72	43.89
47.5	57.57	37.5	26.49	72.5	44.04
48	58.62	38	27.02	73	44.50
48.5	58.97	38.5	27.20	73.5	44.65
49	60.02	39	27.73	74	45.11
49.5	60.37	39.5	27.91	74.5	45.26
50	61.42	40	28.44	75	45.72
50.5	61.77	40.5	28.62	75.5	45.87
51	62.81	41	29.15	76	46.32
51.5	63.16	41.5	29.33	76.5	46.47
52	64.21	42	29.87	77	46.93
52.5	64.56	42.5	30.05	77.5	47.08
53	65.61	43	30.58	78	47.54
53.5	65.96	43.5	30.76	78.5	47.69
54	67.00	44	31.29	79	48.15
54.5	67.35	44.5	31.47	79.5	48.30
55	68.40	45	32.00	80	48.76
55.5	68.75	45.5	32.18	80.5	48.91
56	69.80	46	32.71	81	49.37
56.5	70.15	46.5	32.89	81.5	49.52
57	71.19	47	33.42	82	49.98
57.5	71.54	47.5	33.60	82.5	50.13
58	72.59	48	34.13	83	50.59
58.5	72.94	48.5	34.31	83.5	50.74
59	73.99	49	34.84	84	51.20
59.5	74.34	49.5	35.02	84.5	51.35
60	75.39	50	35.56	85	51.81

Men: Body Composition Calculation Worksheet

1. Measure your wrist 3 times at the space between your hand and your wrist bone where your wrist bends. Write measurements in the space provided.
2. Write your Total Body Weight in the space provided. (Be sure to use your weight from first thing in the morning.)
3. Write in your average waist measurement from your Waist-to-Hip Ratio Calculation Worksheet on page 23.
4. Subtract your average wrist measurement from your average waist measurement. Write the answer in the space provided.
5. Refer to the "Waist-Minus-Wrist Body Fat Calculation Table." Find your Waist-Minus-Wrist number in the row across the top of the table. Then find your weight in the column on the far left. Follow that row over until you are even with your Waist-Minus-Wrist number at the top of the table. That number is your *Body Fat Percentage*.
6. Multiply your Body Fat Percentage (write as a decimal number, i.e. 25% would be .25, 50% would be .50) by your Total Body Weight. That new number is your *Body Fat Weight*.
7. Subtract that number from your Total Body Weight. The new number is your total *Lean Body Mass* (also referred to as your *Lean Body Weight*).



27

Determining Body Fat Percentage

$$\begin{array}{r}
 \text{Average Waist} \quad \underline{\hspace{2cm}} \\
 \text{Average Wrist} \quad - \underline{\hspace{2cm}} \\
 \text{Waist-Minus-Wrist Ratio} \quad = \underline{\hspace{2cm}} \\
 \text{Body Fat Percentage} \quad = \underline{\hspace{2cm}} \%
 \end{array}$$

Determining Body Fat Weight

$$\begin{array}{r}
 \text{Body Fat Percentage} \quad \underline{\hspace{2cm}} \\
 \text{Total Body Weight} \quad \times \underline{\hspace{2cm}} \\
 \text{Body Fat Weight} \quad = \underline{\hspace{2cm}}
 \end{array}$$

Determining Body Fat Mass

$$\begin{array}{r}
 \text{Total Body Weight} \quad \underline{\hspace{2cm}} \\
 \text{Body Fat Weight} \quad - \underline{\hspace{2cm}} \\
 \text{Lean Body Mass} \quad = \underline{\hspace{2cm}}
 \end{array}$$

Waist Minus Wrist Body Fat Calculation—Male

Waist-Minus-Wrist (in inches):		22	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5	29	29.5	30	30.5	31
Weight (in lbs):	120	4	6	8	10	12	14	16	18	20	21	23	25	27	29	31	33	35	37	39
	125	4	6	7	9	11	13	15	17	19	20	22	24	26	28	30	32	33	35	37
	130	3	5	7	9	11	12	14	16	18	20	21	23	25	27	28	30	32	34	36
	135	3	5	7	8	10	12	13	15	17	19	20	22	24	26	27	29	31	32	34
	140	3	5	6	8	10	11	13	15	16	18	19	21	23	24	26	28	29	31	33
	145	3	4	6	7	9	11	12	14	15	17	19	20	22	23	25	27	28	30	31
	150	2	4	6	7	9	10	12	13	15	16	18	19	21	23	24	26	27	29	30
	155	2	4	5	6	8	10	11	13	14	16	17	19	20	22	23	25	26	28	29
	160	2	4	5	6	8	9	11	12	14	15	17	18	19	21	22	24	25	27	28
	165	2	3	5	6	8	9	10	12	13	15	16	17	19	20	22	23	24	26	27
	170	2	3	4	6	7	9	10	11	13	14	15	17	18	19	21	22	24	25	26
	175	2	3	4	6	7	8	10	11	12	13	15	16	17	19	20	21	23	24	25
	180	1	3	4	5	7	8	9	10	12	13	14	16	17	18	19	21	22	23	25
	185	1	3	4	5	6	8	9	10	11	13	14	15	16	18	19	20	21	23	24
	190	1	2	4	5	6	7	8	10	11	12	13	15	16	17	18	19	21	22	23
	195	1	2	3	5	6	7	8	9	11	12	13	14	15	16	18	19	20	21	22
	200	1	2	3	4	6	7	8	9	10	11	12	14	15	16	17	18	19	21	22
	205	1	2	3	4	5	6	8	9	10	11	12	13	14	15	17	18	19	20	21
	210	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17	18	19	21
	215	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16	17	18	19	20
	220	0	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	225	0	1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	230	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	235	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	240	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	17
	245	0	1	2	3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17
	250	0	1	2	3	4	5	6	6	7	8	9	10	11	12	13	14	15	16	17
	255	0	1	2	3	3	4	5	6	7	8	9	10	11	12	13	14	14	15	16
	260	0	1	2	2	3	4	5	6	7	8	9	10	10	11	12	13	14	15	16
	265	0	1	1	2	3	4	5	6	7	8	8	9	10	11	12	13	14	15	15
	270	0	1	1	2	3	4	5	6	7	7	8	9	10	11	12	13	13	14	15
	275	0	0	1	2	3	4	5	5	6	7	8	9	10	11	11	12	13	14	15
	280	0	0	1	2	3	4	4	5	6	7	8	9	9	10	11	12	13	14	14
	285	0	0	1	2	3	4	4	5	6	7	8	8	9	10	11	12	12	13	14
	290	0	0	1	2	3	3	4	5	6	7	7	8	9	10	11	11	12	13	14
	295	0	0	1	2	2	3	4	5	6	6	7	8	9	10	10	11	12	13	14
	300	0	0	1	2	2	3	4	5	5	6	7	8	9	9	10	11	12	12	13

Waist Minus Wrist Body fat Calculation—Male (continued)

Waist Minus Wrist																				
(in inches):		31.5	32	32.5	33	33.5	34	34.5	35	35.5	36	36.5	37	37.5	38	38.5	39	39.5	40	40.5
Weight	120	41	43	45	47	49	50	52	54	56	58	60	62	64	66	68	70	70	74	76
(in lbs):	125	39	41	43	45	46	48	50	52	54	56	58	59	61	63	65	67	69	71	72
	130	37	39	41	43	44	46	48	50	52	53	55	57	59	61	62	64	66	68	69
	135	36	38	39	41	43	44	46	48	50	51	53	55	56	58	60	62	63	68	67
	140	34	36	38	39	41	43	44	46	48	49	51	53	54	56	58	59	61	63	64
	145	33	35	36	38	39	41	43	44	46	47	49	51	52	54	55	57	59	60	62
	150	32	33	35	36	38	40	41	43	44	46	47	49	50	52	53	55	57	58	60
	155	31	32	34	35	37	38	40	41	43	44	46	47	49	50	52	53	55	56	58
	160	30	31	33	34	35	37	38	40	41	43	44	46	47	48	50	51	53	54	56
	165	29	30	31	33	34	36	37	38	40	41	43	44	45	47	48	50	51	52	54
	170	28	29	30	32	33	34	36	37	39	40	41	43	44	45	47	48	49	51	52
	175	27	28	29	31	32	33	35	36	37	39	40	41	43	44	45	47	48	49	51
	180	26	27	28	30	31	32	34	35	36	37	39	40	41	43	44	45	47	48	49
	185	25	26	28	29	30	31	33	34	35	36	38	39	40	41	43	44	45	46	48
	190	24	26	27	28	29	30	32	33	34	35	37	38	39	40	41	43	44	45	46
	195	24	25	26	27	28	30	31	32	33	34	35	37	38	39	40	41	43	44	45
	200	23	24	25	26	28	29	30	31	32	33	35	36	37	38	39	40	41	43	44
	205	22	23	25	26	27	28	29	30	31	32	34	35	36	37	38	39	40	41	43
	210	22	23	24	25	26	27	28	29	30	32	33	34	35	36	37	38	39	40	42
	215	21	22	23	24	25	26	28	29	30	31	32	33	34	35	36	37	38	39	40
	220	20	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
	225	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
	230	19	20	21	22	23	24	25	26	27	28	30	31	32	33	34	35	36	37	38
	235	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
	240	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
	245	18	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35
	250	18	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31	32	33	34
	255	17	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	32	33	34
	260	17	18	19	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33
	265	16	17	18	19	20	21	22	22	23	24	25	26	27	28	29	29	30	31	32
	270	16	17	18	19	19	20	21	22	23	24	25	25	26	27	28	29	30	31	31
	275	16	16	17	18	19	20	21	22	22	23	24	25	26	27	27	28	29	30	31
	280	15	16	17	18	19	19	20	21	22	23	24	24	25	26	27	28	29	29	30
	285	15	16	17	17	18	19	20	21	21	22	23	24	25	26	26	27	28	29	30
	290	15	15	16	17	18	19	19	20	21	22	23	23	24	25	26	27	27	28	29
	295	14	15	16	17	17	18	19	20	21	21	22	23	24	25	25	26	27	28	28
	300	14	15	16	16	17	18	19	19	20	21	22	22	23	24	25	26	26	27	28

Waist-Minus-Wrist Body Fat Calculation—Male (continued)

Waist-Minus-Wrist																				
(in inches): 41		41.5	42	42.5	43	43.5	44	44.5	45	45.5	46	46.5	47	47.5	48	48.5	49	49.5	50	
Weight	120	77	79	81	83	85	87	89	91	93	95	97	99	99	99	99	99	99	99	99
(in lbs):	125	74	76	78	80	82	84	85	87	89	91	93	95	96	98	99	99	99	99	99
	130	71	73	75	77	78	80	82	84	86	87	89	91	93	94	96	98	99	99	99
	135	68	70	72	74	75	77	79	80	82	84	86	87	89	91	92	94	96	98	99
	140	66	68	69	71	72	74	76	77	79	81	82	84	86	87	89	91	92	94	96
	145	63	65	67	68	70	71	73	75	76	78	79	81	83	84	86	87	89	91	92
	150	61	63	64	66	67	69	70	72	74	75	77	78	80	81	83	84	86	87	89
	155	59	61	62	64	65	67	68	70	71	73	74	76	77	79	80	82	83	85	86
	160	57	59	60	61	63	64	66	67	69	70	72	73	75	76	77	79	80	82	83
	165	55	57	58	60	61	62	64	65	67	68	69	71	72	74	75	76	78	79	81
	170	54	55	56	58	59	60	62	63	64	66	67	69	70	71	73	74	75	77	78
	175	52	53	55	56	57	59	60	61	63	64	65	66	68	69	70	72	73	74	76
	180	50	52	53	54	56	57	58	59	61	62	63	65	66	67	68	70	71	72	74
	185	49	50	51	53	54	55	56	58	59	60	61	63	64	65	66	68	69	70	71
	190	48	49	50	51	52	54	55	56	57	58	60	61	62	63	65	66	67	68	69
	195	46	47	49	50	51	52	53	55	56	57	58	59	60	62	63	64	65	66	68
	200	45	46	47	48	50	51	52	53	54	55	57	58	59	60	61	62	63	65	66
	205	44	45	46	47	48	49	51	52	53	54	55	56	57	58	60	61	62	63	64
	210	43	44	45	46	47	48	49	50	51	53	54	55	56	57	58	59	60	61	62
	215	42	43	44	45	46	47	48	49	50	51	52	53	54	56	57	58	59	60	61
	220	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
	225	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
	230	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
	235	38	39	40	41	42	43	44	45	46	47	48	49	50	51	51	52	53	54	55
	240	37	38	39	40	41	42	43	44	45	46	46	47	48	49	50	51	52	53	54
	245	36	37	38	39	40	41	42	43	44	44	45	46	47	48	49	50	51	52	53
	250	35	36	37	38	39	40	41	42	43	44	44	45	46	47	48	49	50	51	52
	255	34	35	36	37	38	39	40	41	42	43	44	44	45	46	47	48	49	50	51
	260	34	35	35	36	37	38	39	40	41	42	43	43	44	45	46	47	48	49	50
	265	33	34	35	36	36	37	38	39	40	41	42	43	43	44	45	46	47	48	49
	270	32	33	34	35	36	37	37	38	39	40	41	42	43	43	44	45	46	47	48
	275	32	32	33	34	35	36	37	38	38	39	40	41	42	43	43	44	45	46	47
	280	31	32	33	33	34	35	36	37	38	38	39	40	41	42	43	43	44	45	46
	285	30	31	32	33	34	34	35	36	37	38	39	39	40	41	42	43	43	44	45
	290	30	31	31	32	33	34	35	35	36	37	38	39	39	40	41	42	43	43	44
	295	29	30	31	32	32	33	34	35	36	36	37	38	39	39	40	41	42	43	43
	300	29	29	30	31	32	33	33	34	35	36	36	37	38	39	39	40	41	42	43

STEP THREE

Find your Ideal Body Fat Percentage and your Ideal Body Weight Range

Below is your "Ideal Body Fat Percentages Table." With it you can determine an appropriate goal for body fat for your gender and age. The range provided will also be used in your next calculations to find your Ideal Body Weight.

Remember, it's important to take advantage of every opportunity to set goals for yourself. They are always your best motivational tool. In addition, the goals you set for your Body Fat Percentage and for your Total Body Weight as well as the goals you set for health improvements will help you and your doctor track your results over the coming weeks.

Ideal Body Fat Percentages Table		
AGE	MALES	FEMALES
10-30	12-18%	20-26%
31-40	13-19%	21-27%
41-50	14-20%	22-28%
51-60	16-20%	22-30%
Over 61	17-21%	22-31%

Credit: Eades, M.R., *Thin So Fast*, Warner Books, 1989.

Ideal Body Weight Calculation Worksheet

1. Write your Lean Body Mass/Weight in the space provided.
2. Find your Ideal Body Fat Percentage Range. Write range in the space provided.
3. Subtract the first (lower) number in the range from 100. Write the difference in the space provided.
4. Subtract the second (higher) number in the range from 100. Write the difference in the space provided.
5. Divide your Lean Body Mass/Weight by each of those numbers. Write new numbers in spaces provided.
6. Multiply each of those numbers by 100. Write new numbers in spaces provided.
7. These new numbers represent your Ideal Body Weight Range.

31

Determining Ideal Body Weight

Lean Body Mass: _____	
Ideal Body Fat Percentage: _____% (low) to _____% (high)	
100	100
Low number - _____	High number - _____
Difference = _____	Difference = _____
Lean Body Mass _____	Lean Body Mass _____
Above Difference + _____	Above Difference + _____
Total = _____	Total = _____
x 100	x 100
Ideal Body Weight _____	Ideal Body Weight _____
(low end)	(high end)

Chapter Five

PERSONALIZING YOUR PROTEIN POWER PLAN

In this chapter...

First and foremost, in two simple steps you will determine your:

- *Daily Protein Requirement* and
- *Daily Carbohydrate Maximum*.

These are the focal points of your meal planning and eating.

Next we will explain exactly how you use those numbers to decide what and how much you should be eating. Last, we'll give you all the details of how to get optimal results on your Personal Protein Power Plan!

When we're finished...

You'll be ready to start planning your meals. You'll be ready to start losing 2 to 4 pounds per week (depending on your age and activity level). And you'll be ready to be healthier than you've ever been before!

Be sure to read this chapter carefully. It is brimming with tips and important details about how you can optimize your health and lose your excess unneeded and unwanted body fat!

STEP ONE

Calculate your Daily Protein Requirement

The key to calculating your Daily Protein Requirement is balancing what your body absolutely needs to support your Lean Body Mass based on your activity level. We've simplified that determination for you. All you need are three simple numbers and your trusty calculator!

Activity Table

IF You:	You ARE:	YOUR ACTIVITY CATEGORY NUMBER* Is:
• Are not physically active in any way —a couch potato.	sedentary	0.5
• Exercise roughly 20 or 30 minutes 2 or 3 times each week.	moderately active	0.6
• Exercise 3 to 5 times each week, 30 minutes at a time.	active	0.7
• Work out 1 hour, twice each day.	an athlete	0.9

* Your Activity Category Number represents the number of grams of protein you need per pound of Lean Body Mass.

Credit: Derived from: Lemon, PWR, "Is Increased Dietary Protein Necessary or Beneficial for Individuals with a Physically Active Lifestyle?", *Nutrition Reviews*, Vol. 54, No. 4, April 1996.

Daily Protein Requirement Calculation Worksheet

34

1. Refer to the Activity Table. Record your Activity Category Number in the space provided.
2. Write your Lean Body Mass/Weight in the space provided.
3. Multiply the two numbers together.
4. The new number will be your *Daily Protein Requirement* in grams.
5. Divide that number by 3 and you will have your *"Per Meal" Protein Requirement* in grams.

Determining your Protein Needs

$$\begin{array}{r}
 \text{Activity Category Number} \quad \underline{\hspace{2cm}} \\
 \text{Lean Body Mass} \times \underline{\hspace{2cm}} \\
 \text{"Daily" Protein Requirement} = \underline{\hspace{2cm}} \text{ grams} \\
 \div \quad 3 \\
 \text{"Per Meal" Protein Requirement} = \underline{\hspace{2cm}} \text{ grams}
 \end{array}$$

These numbers are very important. They represent your *minimum* protein requirement—the very *least* amount of protein per day and per meal that you need to support all the functions of your "vital core" or Lean Body Mass. While you can have *more* protein, you should try never to have *less* protein in any given meal or day.

STEP TWO

Finding your Daily Carbohydrate Maximum

The following questionnaire will complete your personal nutritional guidelines for *The Protein Power Plan*.

Your daily carbohydrate maximum questionnaire

There are no calculations for arriving at this number. Just answer the following three questions:

1. Do you need to lose more than 20% of your total weight? Yes No
2. Do you have:
 - high blood pressure? Yes No
 - diabetes? Yes No
 - elevated cholesterol or triglycerides? Yes No
3. Does your Waist-to-Hip ratio fall into the abdominal pattern? Yes No

If you answered yes to *any* of these questions:

35

Your *Daily Carbohydrate Maximum* will be 28-40 grams of carbohydrates per day—7 grams per snack and 7-10 grams per meal. This is what we call a *Phase I Correction*.

If you answered no to *all* of these questions:

After an initial week of Phase I, with the *Daily Carbohydrate Maximums* shown above, your *Daily Carbohydrate Maximum* will increase to 55-60 grams of carbohydrates per day—10 grams per snack and 10-15 grams per meal. This is called *Phase II Correction*.

This number—the maximum number of grams of carbohydrate you should have per day is somewhat different from your protein requirement. Where the protein portion is a *minimum requirement*, you should consider this carbohydrate portion a *maximum that you should never exceed*. You should try never to have any more than 7-10 grams of carbohydrate per meal in a Phase I Correction, or 15 per meal in Phase II. If you exceed your allotment, your insulin levels will climb high and then plummet—which is exactly what we are trying to avoid in this plan! What we want more than anything is to keep your insulin low and level.

Using your food charts

The Protein Equivalency Chart tells you the portions of various types of protein you can have per meal based on your "Per Meal" protein requirement. Here's how you use it.

1. Find the food you wish to eat in the far left "Food" column.
2. Find your Daily/Per Meal Protein Requirement in the row across the top of the chart.
3. Where your Protein Requirement column meets the food row is the portion you can have in a given meal.

The Effective Carbohydrate Content (ECC) Chart helps you choose your carbohydrate sources. It provides various foods and their carbohydrate content in 3 types of portions—small, medium, and large. We have already deducted the fiber content for you.

1. Find the food you wish to eat in the far left "Food" column.
2. Find the portion you're allowed in the row across the top.
3. Where the food row intersects the appropriate portion column, you'll find the appropriate allotment of carbohydrate for that particular food.

What about fats?

36

We do not restrict fats on *The Protein Power Plan* the same way we do carbohydrates. Instead we recommend only that you incorporate them sensibly and stick with "good" natural fats and oils. They are:

- Olive oil: extra-virgin, virgin, or pure
- Nut oils: walnut, macadamia, hazelnut, or almond
- Peanut oil
- Sesame seed oil (light)
- Avocado and avocado oil
- Unsalted or clarified butter (saturated source)
- Cold water fish (sardines, salmon, mackerel, herring, tuna) or cod liver oil

The oils you'll want to stay away from are partially-hydrogenated oils, processed corn oil, vegetable oils, vegetable shortening, and safflower oil.

Surprisingly, we hope pleasantly so, we recommend butter over margarine.

Generally people do not have a difficult time self-regulating their fat intake. Eating fat without the carbohydrate—the butter without the bread, the dip without the chip, the gravy without the mashed potato—just doesn't seem to get folks excited. You'll find you have little desire to binge out on just fat. Our bodies are quickly satisfied when it comes to how much fat they want to eat at one time.

And fluids?

The answer is simple: drink as much water, as much calorie-free fluid as you can. We want you to drink at least 2 quarts (64 oz.) of fluid that does not have any calories each day. Here's why:

- Drinking water will help to remove excess ketones, the by-product of burned fat from your system. While these by-products will not harm you, they can cause some annoying side effects.
- On your new eating plan, your body should no longer retain fluids. You need to make an extra effort to keep the fluids going. You must ensure there is always enough fluid in your system. Otherwise you may risk dehydration.

Though water is your best option, don't feel you're limited to water alone. Any fluid that does not have calories is fair game. That includes diet soda*, coffee (with or without caffeine), tea, iced tea, water, mineral water...just to name a few.

And if you take a little milk or half-and-half in your coffee or tea, that's okay too.

A reason to avoid artificial sweeteners is that the intense sweet taste can actually trick your body and stimulate the release of insulin. In turn, your blood sugar will drop and you may experience hunger. So in the long run, artificial sweeteners may cause you to overeat when otherwise you would not!

Caffeine can influence insulin levels as well. If you find that you still have between-meal hunger pangs or that fluids are tending to stay with you, you may want to consider cutting back on the caffeine.

Consider *when* you should drink your fluids. Before or between meals is preferable to drinking it with meals. This is more of a behavioral suggestion than a physiological one. For some reason when we have a great big beverage with our meals, we have a tendency to overeat. Without a beverage, we chew longer and we take our time, giving the body's "I'm full" signal a chance to catch up.

37

The Protein Power Plan *Summary*

First be advised

You should consult your physician and enlist his or her advice and/or support in undertaking this plan if you:

- are pregnant or are trying to conceive.
- are taking medications or are under a physician's care to control blood pressure, cholesterol, fluid retention, or blood sugar or for any other serious health problem.

Do not, under any circumstance, reduce, discontinue, or change your current prescriptions or dosage in any way whatsoever without the express consent of your physician.

***Pleasenote:** Artificial sweeteners are OK, though we recommend you exercise caution and use them only in moderation. Based on recent information that suggests aspartame (NutraSweet, Equal) may be harmful to brain cells, we recommend you avoid it. Saccharine, acesulfame (marketed as SweetOne) and, in Canada, sucralose would be better choices.

About the plan

Proteins:

- Most importantly, make sure you meet (or exceed) your protein requirement for each meal each day. If you're concerned with losing body fat, you may want to tend toward meeting the requirement. Our point is don't sweat the small stuff if you should go over by a small amount occasionally.
- Your protein requirement can be met with any of the following: lean beef, pork, fish, poultry, cheese, or eggs—basically any animal protein—or by tofu or other soy products. With vegetable and dairy protein sources, always be on the lookout for undercover carbs, however!
- As you lose body fat, you will want to recalculate your Protein Requirement because your lean body mass may change if you build more muscle.

Carbohydrates:

Everyone should start out on Phase I Correction for at least a week.

- You will want to remain in the Phase I mode if:
 - you have more than 20% body fat,
 - you are trying to reduce your blood pressure, cholesterol and triglycerides, blood sugar, or solve a fluid retention problem,
 - you have not moved out of the abdominal pattern based on your Waist-to-Hip ratio, or
 - you have not reached your goal in any of those categories.
- You will want to move to Phase II mode if:
 - you are trying to lose less than 20% body fat,
 - you are trying to recompose your body fat/lean body mass proportion, or
 - you simply want to get healthier.
- Your carb maximum is just that. You should *not* exceed it. This is one of the keys to getting your insulin under control and getting your glucagon active in burning fat.
- Your Protein Requirement/Carb Maximum poster shows the ESSENTIAL carbohydrate content only. The fiber has already been deducted.

38

Details, details

- **You should drink at least 64 ounces of noncaloric fluid each day.** It is best consumed between or before meals.
- **Your fats consumption is self-regulated.** Don't worry too much about it, just make sure you eat some and that it is the "good" kind...olive oil, nut oils, butter, or avocado.
- **Fiber is also important.** You'll want to be eating at least 25 grams each day. As you look at your carbohydrate chart, you should note that the foods with the most fiber are the ones that have the most volume with the least carb grams.

- **You should take a potassium supplement to help deal with the loss of potassium that goes along with fluid loss.** A potassium supplement is a critical part of *The Protein Power Plan*. The program will have a diuretic affect on your kidneys. Along with the fluid you lose, will go sodium and potassium. Unless you replace that potassium, you may experience lightheadedness, fatigue, or muscle cramps. You should take (4) 99 mg tablets each day. You can find potassium at your local pharmacy or health food store.
Caution: If you are currently taking *any* prescription medications (especially for high blood pressure) you must consult your physician or pharmacist before you begin taking potassium supplements.
- **You will also want to take a multivitamin while you're on the plan.** You will want to make sure to take a good quality chelated multivitamin and mineral. Write to us if you cannot find one.
- **For some people, red meat and egg yolks in high quantity can pose a problem.** If you have high cholesterol or blood pressure, arthritis, bursitis, or asthma, suffer fluid retention, or have frequent skin rashes, it may be in your best interest to go light on the steak and eggs and to gradually test your tolerance as you go.
- **Wine, alcohol, and beer are permissible as long as you count the carbs!** Dry white (3 oz.) or red wine (3 oz.) and Miller Lite Beer (12 oz.) will cost you 3 or 4 carb grams, but are still reasonable choices as long as you count them in your daily totals. Hard liquor, on the other hand, can have a more pronounced effect on your insulin levels. Take it easy and count those carbs! Wine—in moderation—can even help improve insulin sensitivity.
- **You don't have to limit your food intake to three meals a day. In fact, in the beginning, we recommend you plan on snacking at least once a day.** Not chips or doughnut snacking; you still need to work off the food lists we provide. But considering our goal is to keep the insulin in your bloodstream at a steadily low level, a regular eating pattern will serve you well. If you eat less, but more frequently, you won't have the wider fluctuations caused by large meals. And with the steady stream of protein, you'll be keeping your glucagon busy and working in your favor.
- **The best type of exercise to compliment *The Protein Power Plan* is resistance training.** It both improves insulin sensitivity and increases lean muscle mass efficiently. This is done with free weights or with Nautilus or Universal-type equipment. The intensity of the workout on the various muscles is the greatest advantage to this type of nutritional plan. Be sure to work the large muscle groups first and to always go for high intensity while maintaining good form.

Eating out

Dining out has become an important part of the North American lifestyle—both social and career obligations may demand that you eat out frequently. But eating out doesn't mean you can't stick to your new nutritional program—in

fact, on *The Protein Power Plan*, it's a snap! You'll just need a few simple guidelines to be able to enjoy a good meal at almost any restaurant—without abandoning your commitment to restore your health and fitness. Here's how:

Steaks, chops, chicken, or seafood joints

Starters: Begin with a protein appetizer, such as a shrimp cocktail. Then go for a big green salad with a good herbed olive oil vinaigrette, ranch, or lemon juice dressing.

Entrees: Order your favorite cut of beef, lamb chops, pork chops, chicken breasts or tenders, fish fillet or steak, or seafood cooked the way you like (except battered and fried).

Instead of potatoes, rice, or pasta, ask the waiter to substitute a serving of green vegetables, a saute of fresh vegetables, or some slices of fresh tomato. If you run into the situation of no suitable (non-starchy) choices, ask for another serving of salad instead.

Beverages: Tea, coffee, or water are good choices. If you choose to drink alcohol, have a glass of dry wine or a single lite beer.

Dessert: Fresh melon or berries (in season).

Avoid: bread or rolls, starchy vegetables, sugary desserts, and sweet wines.

Italian Bistro

Starters: Green salad, sauteed calamari, or antipasto makes a good beginning.

Entrees: Medallions of beef, roasted chicken; grilled beef, rabbit, chicken, or seafood. Instead of pasta, select a saute of zucchini or other summer squashes, artichokes, peppers, or tomatoes.

Beverages: Tea, coffee, water, or if you choose, a glass of dry red or white wine or a single lite beer.

Avoid: pasta dishes

Chinese, Thai, Vietnamese Restaurant

Starters: Begin with a clear soup (try to avoid eating the noodles, dumplings, or wonton). Request a green salad or fresh or marinated spring vegetables.

Entrees: Select grilled or stir-fried chicken, beef, pork, fish, or seafood with green or colorful vegetables, peppers, onions, mushrooms, water chestnuts, and/or bamboo shoots.

Beverages: Hot tea, iced tea, coffee, or water. If you choose, you could have a glass of very dry wine or a lite beer (skip these on Phase I; your vegetables will take up your carbohydrate allotment).

Dessert: Enjoy a laugh—read your fortune and give the cookie away.

Avoid: steamed or fried rice, noodles, wonton, breaded items, sweet and sour entrees, mushoo pancakes, egg rolls, and spring rolls.

Sushi Bar or Japanese

Starters: Miso soup and/or green salad

Entrees: Any selection of raw or cooked sushi (skip at least $\frac{1}{2}$ the rice on each piece at a minimum) or sashimi (raw fish without the rice), or try skewers of beef or chicken, with fresh or marinated vegetables.

Beverages: Green tea, iced tea, water. If you choose, a glass of dry wine or a lite beer, or a single cup of sake for good luck!

Avoid: batter-fried foods (tempura) and excessive rice, especially sushi rice that has some added sugar.

Pizza, Subs, and Suds

Starters: Fresh green salad

Entrees: *Pizza* with any number of toppings (eat the tops and leave the crust) or any variety of submarine sandwich (leave at least one half the bun).

Beverages: Tea, coffee, or water. If you choose, a single glass of wine or a lite beer.

Avoid: garlic toast, breadsticks, pizza crust, more than $\frac{1}{2}$ a submarine bun (even $\frac{1}{2}$ a bun may have 15 grams of effective carbohydrate).

Hamburger Hangout

Starter: A side salad (fresh green or tossed salad) can be had at virtually any hamburger joint.

Entree: Any single- or double-patty burger or grilled chicken sandwich, with cheese or bacon if you desire, top it with lettuce, tomato, and onion. Either avoid both buns (if you're on Phase I) or eat only $\frac{1}{2}$ a bun (if you're on Phase II).

Beverages: Iced tea or water, or if you choose, a single lite beer.

Dessert: If available, a fresh medium peach or $\frac{1}{2}$ small apple.

41

The big picture

Following is a Personal Protein Power Worksheet. With it, you can summarize your Personal Protein Plan "vital statistics" as well as your most basic daily meal portions and some of your daily meal preferences. It will provide a clear "Before" picture to look back on and use to check your progress. It represents the bare bones of your plan. Once you have completed it, you will be ready to flesh out your eating plan.

You may want to photocopy the blank page and fill in the copy. As you progress on the plan—weekly, perhaps monthly—you can make a new photocopy and complete it to track your progress.

After you have completed it, go on to the "Meal Planner Worksheet" on the following page where you will start actually planning out a day's worth of meals. Again, you will want to make photocopies of this page so you can plan your meals ahead of time. Then at the end of the day you can fill in what you actually ate. This tool is invaluable in getting used to working with the plan.

Personal Protein Power "Before" Worksheet

Instructions: Fill in this chart.

Lab Tests:

	<i>BEFORE</i>	<i>AFTER</i>
Blood Insulin	_____	_____
Blood Pressure	_____	_____
Cholesterol	_____	_____
HDL	_____	_____
LDL	_____	_____
VLDL	_____	_____
Triglycerides	_____	_____

Measurements:

Height _____
Weight _____
Waist Measurement _____
Hip Measurement _____
Waist-to-Hip Ratio: _____
Hip and Leg Pattern or Abdominal Pattern _____

Calculations:

Percentage of Body Fat _____
Body Fat Weight _____
Lean Body Mass Percentage _____
Lean Body Mass Weight _____
Ideal Body Weight Range _____

Requirements:

Daily Protein Requirement _____
Per Meal Protein Requirement _____

_____ ounces of lean meat/meal
_____ egg + _____ egg whites egg protein/meal
_____ ounces tofu/meal
_____ cups curd cheese/meal
_____ (combined-source option)
_____ (combined-source option)
_____ (combined-source option)
_____ (combined-source option)
_____ (combined-source option)

Correction Phase:

Phase I or Phase II

Daily Carbohydrate Maximum _____

Per Meal Maximum _____

Per Snack Maximum _____

Portion sizes for favorite carbohydrate choices

Meal Planner Worksheet

Write in your "Per Meal" or Snack allotments below.

"Per Meal" Protein Requirement _____ grams

"Per Meal" Carbohydrate Maximum _____ grams

Snack Protein Requirement (½ "Per Meal") _____ grams

Snack Carbohydrate Maximum _____ grams

THE PROTEIN
POWER PLAN
MEAL PORTIONS

WHAT You **PLAN**
TO EAT

WHAT you
ACTUALLY ATE

Breakfast

Protein _____

Carbohydrate _____

Fluid (16 oz.)* _____

Multivitamin/

Multivitamin

Potassium supplement**

Potassium supplements

Lunch

Protein _____

Carbohydrate _____

Fluid (16 oz.)* _____

Dinner

Protein _____

Carbohydrate _____

Fluid (16 oz.)* _____

Snack (Morning, Afternoon, or Bedtime)

Protein _____

Carbohydrate _____

Fluid (16 oz.)* _____

* It is best to have 8-12 oz. of non-caloric fluid before each meal and have 4-8 oz. during the meal.

** You'll want to take a good quality multivitamin and (4) 99 mg potassium tablets each day.

Moving from Phase I to Phase II

- The biggest factors in deciding when to make this move are:
 1. What your goals are, and
 2. Whether you've achieved them.
- For instance, if you wish to lose more than 20% body fat but have none of the hyperinsulinemia-related illnesses, you can probably move to Phase II after four to six weeks—remain there until your percent body fat is 20% for men / 20-25% for women.
- If your goal was to correct high blood pressure* and/or high cholesterol*, to regulate blood sugar*, or to correct any combination of the above*, you can move to the Phase II Correction when these conditions have been corrected and stayed stable for at least four weeks.
- If you are not overweight but suffer one of the conditions listed above, when all your readings are stable, move to Phase II for three to four weeks and then transition to maintenance.

*If you take medication for any of the hyperinsulinemia-related disorders, you will want to continue on with Phase I until your dosage has been reduced significantly or discontinued altogether, and you have remained stable for at least four weeks.

Moving into maintenance

44

To make the transition from Phase II to maintenance:

- Your "per meal" protein minimum remains the same. In maintenance, however, you can begin to eat larger portions if you wish. You may want to redo your Lean Body Mass calculation to ensure you are getting enough.
- Your selection of fats will remain the same. Choose only good fats such as nuts, seeds, avocado, olives, and/or butter. But, you can now eat them in more liberal quantities.
- Slowly ease your carbohydrate grams per meal upward. Add an additional 5 grams per meal the first week, another 5 grams the second week and so on, until you:
 - stop losing weight,
 - begin to experience fluid retention, or
 - see a slight rise in triglycerides.

When you do experience any of the above, go back to your last carbohydrate level and stay there.

Chapter 6

FREQUENTLY ASKED QUESTIONS

Questions about The Protein Power Plan

Can the calculations to determine protein and carbohydrate be simplified?

Oddly enough, they have been. The actual formulas that *The Protein Power Plan* tables and worksheets came from would make you scream. We have tried to summarize the process on your Quick-Start Program brochure. If that still looks too complicated, here is a simple "ball park" method. Your numbers will not have the same accuracy as the longer method. But they're close enough to get you started.

	lean	average	obese
men	.85	.8	.6
women	.8	.75	.55

45

Simply multiply your total body weight by the number in the category above that you fall into. That new number is an estimate of your Lean Body Weight. Multiply your Lean Body Weight by your Activity Category Number (see page 34) and you will get a close approximation of your Daily Protein Requirement.

Does following a low-fat, low-calorie diet for an extended period require a different approach to starting *The Protein Power Plan*?

No, although it may take a week or two for your body to manufacture the necessary enzymes to effectively handle the new nutritional structure. Your body will make any enzyme it needs, but there is a short lag to do so. During this period, you may feel slightly fatigued, but that should quickly pass.

Would following *The Protein Power Plan* lead to an increased risk of disease even though you might lose weight?

Absolutely not. Most of *The Protein Power Plan* is devoted to detailed explanations of why this program will effectively reduce cholesterol, triglycerides, blood sugar, and a host of other health problems. Weight loss is a happy side benefit of this very healthful program.

How does *The Protein Power Plan* compare with *The Zone*?

Barry Sears, the creator of *The Zone*, is a close friend of ours. We've worked with him a lot and argued a lot over our different dietary philosophies. Barry has made his mark taking care of elite athletes. And elite athletes can get by with a lot higher carbohydrate intake. Consequently, Barry puts people on a higher carbohydrate intake than we do. But we've discovered, in our years of treating just average everyday patients—with all the everyday problems of raging insulin levels—that average, everyday people do much better on a more stringent carbohydrate restriction right from the start.

Interestingly, a study appeared early this year in *The American Journal of Clinical Nutrition*—the world's premiere nutrition journal—in which a *Zone-type* diet and a *Protein Power Plan-type* diet were compared. The study was done in Switzerland at the University of Geneva in collaboration with Stanford University.

The researchers took a group of patients who couldn't lose weight on their own and put them in the hospital in a metabolic ward where they could be observed continuously. This way they knew there would be no cheating involved, and they could really control the amount of food patients ate. They basically compared the two diets.

One group was put on a higher carbohydrate plan—still a reduced carbohydrate diet compared to the average American diet, but an amount that approximated *The Zone*. The other group of patients were put almost exactly on a *Protein Power Plan-style* diet. What they found was that over the six weeks they followed these patients, the group on *The Protein Power Plan-style* diet lost a little bit more weight than the group on *The Zone-style* diet. Part of the reason for that was they were both reduced-calorie diets of the same number of calories.

What was really interesting was comparing the insulin levels. *The Zone-style* diet yielded an 8% drop, where *The Protein Power Plan-style* diet yielded a 46% decrease! As you would expect, they had corresponding differences in blood pressure and cholesterol and all the other parameters that were evaluated. In virtually every parameter looked at, from blood sugar to cholesterol to high blood pressure, the people on *The Protein Power Plan-style* diet performed much better, mainly because their insulin levels decreased more rapidly. For that reason we start people with a lower carbohydrate content and work more toward Barry's plan. We're both shooting for the same end result, but you get there more quickly on *The Protein Power Plan* than you do on *The Zone*.

I've heard that low-carbohydrate diets cause rapid weight loss of water only. Is that true on *The Protein Power Plan*?

The Protein Power Plan reduces blood pressure very quickly and one of the ways it does that is by causing diuresis, or increased production of urine. It does this because most people who have insulin problems are already retaining too much fluid. The plan simply gets rid of that *excess* fluid. So at the beginning of the program they will have a diuresis—they will lose some water weight. But after that initial water weight is gone, things even out and they tend to lose just fat week after week.

It's not uncommon in our medical practice to have patients who lose one hundred to one hundred and fifty pounds. Unless they were just water balloons, there's no way that the weight loss is all water. Some people have lost two hundred pounds and obviously it's not all water.

How does this diet affect endurance athletes?

Quite well once they've adapted to using fat as their main fuel for exercise—a process that may take a week or two. Carbohydrate restriction causes a slight depletion of the **glycogen** stores. For a few days this condition may cause some slight fatigue and a feeling of being "out of gas." But it is the slightly glycogen-depleted state that encourages the body to turn to fat as the preferred metabolic fuel for muscle. And even in a lean person, there's a lot more fat than glycogen to draw from.

glycogen
storage form of
sugar in the body

In studies done at the Naval Air Station in San Diego, Captain Charles Gray has shown that after adapting to the low-carb state, naval recruits not only equaled their previous endurance level, but surpassed it.

Will *The Protein Power Plan* cause a decrease in endurance and athletic performance?

Absolutely not. In fact, studies have shown just the opposite—that people on a higher fat diet actually have much more endurance. This may sound wrong, because it is so common for athletes to "carbo load" before a big endurance event. The whole idea of loading up on carbs is outdated nutritional advice.

Did you ever wonder why the United States is not competitive in athletic endurance events? It's probably because American athletes carbo load. They don't in other countries. In many other countries that do well in athletic events, athletes tend to load up on fats more than they do on carbohydrates because all the recent studies show that "fat loading" promotes better athletic endurance.

47

A problem that the U.S. has had for a long time is that when people switch from a high-carb diet to a higher-fat, low-carb diet, there is a decline in athletic performance *at first*. The reason is that enzymes have to adapt to the low-carb diet.

But the decline is temporary, lasting three or four days, a week at most. Once athletes have adapted to the low-carbohydrate diet, studies uniformly show athletic endurance increases. It makes perfect sense when you think about it. When you're on a higher-carb diet, the whole premise is you're trying to stuff a lot of glycogen into your glycogen stores so you can run on it. But no matter how full you stuff them, they can only get so full, which only lasts a few hours. You can't run on glycogen for longer than that, so athletes "hit the wall." They run out of steam and they have to switch over to burning fat. If they started burning fat right at the beginning, they'd do much better.

The other problem with carbo loading is that becoming carbohydrate-adapted often means your insulin levels are increased. And in the face of elevated insulin levels, you can't access the fat stored in your fat cells. And the fat in your fat cells is your most important and most potent source of energy in any

kind of endurance event. No matter how well somebody's doing athletically, on a high-protein plan, they could probably do better once they've allowed themselves to adapt.

Do low-carbohydrate diets raise cholesterol?

You hear this all the time. When you tell people that you're on a diet that contains meat, the first thing that pops from their mouth is that it's going to make your cholesterol go up—and it really is not true. There have been a number of studies designed to show why.

One group of studies replaced carbohydrate with protein and showed that doing so can lower cholesterol dramatically. Another group of studies has been done, showing that if you replace carbohydrate with fat, you can lower cholesterol dramatically.

When you replace carbohydrate with either protein or fat, you're eating less carbohydrate. When you eat less carbohydrate, your insulin falls. When your insulin falls, your liver is told to make less cholesterol.

Routinely our patients and people who have responded to us from all over the country—people who have applied this plan—have had their cholesterol levels drop. We've had people come in with triglycerides in the 3000 range and cholesterol in the four, five and six hundred range. They have responded perfectly and normalized in just a few weeks—much more quickly than they could ever hope to with any drug. And what's more, they do this with zero side effects.

48

My triglycerides fell, but my LDL cholesterol went up some. What's wrong?

Nothing. What you may not realize is that LDL values from the lab in a lipid profile are a calculation, not a measurement. What is measured is total cholesterol, HDL cholesterol, and triglycerides. The calculation is made as follows:

$$\text{Total cholesterol} = \text{LDL} + \text{HDL} + \text{VLDL}$$

The VLDL is estimated as triglycerides divided by 5. If the total cholesterol stays about the same, but the HDL rises and the triglycerides fall, it will appear that the LDL has risen. If you can get your physician to measure an Apo-B level, this will measure absolute numbers of LDL particles, but it's not a test available everywhere.

In keeping with the latest information concerning which cholesterol measurement is most significant in predicting heart disease risk, you may want to try the following calculation. Divide your triglyceride level by your HDL level.

For example:

Triglyceride	÷	HDL	=	Ratio
300	÷	30	=	10
100	÷	40	=	2.5

The lower your ratio, the better. Ideally, you want to keep it below 5.

My blood pressure hasn't come down as I would expect.

What's wrong?

Examine your protein intake. If you're eating heavily on grain-fed red meat and egg yolks, you may be consuming too much arachadonic acid, which can keep your blood pressure elevated. If so, reduce your intake of these foods. Turn instead to wild game, free-range beef, more cold-water fish (sardines) and seafood, and egg whites. You might also want to take a look at the level of stress in your life. Stress keeps cortisol (and therefore, insulin) levels elevated, and you can reduce the levels by regular exercise, meditation, and relaxation techniques. The natural herbal product, KavaKava, may also help to reduce cortisol levels.

Don't low carbohydrate diets produce toxic ketones in the blood?

That's what everyone says. It used to be thought that ketones really were a problem because Type I diabetics develop a dangerous state called ketoacidosis, in which they produce too many ketones with no way to shut down production. And in Type I diabetics, it's a problem. In the rest of the population—who don't have Type I diabetes—ketones don't cause a problem, because if they rise too high, the body produces insulin to shut down ketone production.

What exactly are ketones?

Ketones are a partial breakdown by-product of fat burning. When fat cells release fat, it passes through the liver and is converted to ketones. Our bodies burn ketones for energy and, if you read any biomedical chemistry text, it will tell you just that.

Not only that, but your body prefers ketones for fuel over anything else, followed by free fatty acids and glucose. That's straight from a major medical school biochemistry text.

Ketone bodies are perfectly normal fuels and they're used by many of the tissues in the body preferentially. Heart muscle and kidney cells use ketones preferentially to anything else including glucose. So the whole idea that ketones are toxic is a total myth.

Can high-protein or low-carbohydrate diets damage your kidneys?

Not as long as you start out with normal kidney function. There are several key studies that stand out in laying this myth to rest. One study was done in Israel a few years back. It compared people who ate lots of protein to people who had been vegetarians for an average of about thirteen years and who ate minimal amounts of protein. The *only* protein they got was vegetable protein. Researchers did careful cross-matching so they had a perfect match in terms of age and sex in the two groups. When they compared the normal decline in kidney function that naturally occurs in people as they age, the researchers found no difference between the heavy-protein eaters and the almost no-protein eaters.

There have also been several studies out of Germany from a group of researchers who studied body builders who tend to eat lots of protein to build muscle. Those researchers discovered that not only do higher-protein diets *not*

cause a deterioration, they actually *enhance kidney function*. The protein itself makes the kidneys function more efficiently!

The only time high-protein diets can affect kidney function is if you have impaired kidney function to begin with. If you do have a kidney problem—and most people who have one know they have one—it doesn't mean you shouldn't eat any protein. If you do, you'll become protein-malnourished. *What it does mean is you have to be very careful to only eat the exact amount allowed*. You can't go over it.

But for the vast majority of us who have normal kidney function, eating protein doesn't hurt our kidneys at all.

How do I increase calories after I reach my goal?

As we explain in Chapter Five, you will slowly increase your level of carbohydrate until you reach the maximum level that you will tolerate—generally a number of grams approximately equal to, or if you're active, as much as $\frac{1}{3}$ more than your minimum protein gram requirement. For example, if your daily protein requirement minimum is 80 grams, you are likely to tolerate 80 to 120 grams of carbohydrate daily in maintenance. The remainder of the calories you require to maintain your weight should come from high-quality protein and fat sources, such as lean meats, fish, seafood, fowl, wild game, nuts, seeds, avocado, and olives.

Weight loss/results questions

How long after starting can I expect to see results?

Within a few days, the body begins to rid itself of excess retained body fluid. Usually within a week, energy levels climb, endurance increases, hunger and sugar cravings diminish, and blood pressure begins to normalize. Fat loss begins right away, but after week 2 will usually settle into a stable 2-4 pounds per week for most people. Cholesterol and triglyceride levels usually begin to correct within 3-6 weeks.

How can I determine my ideal body weight?

Your ideal weight will depend on a number of things: how muscular you are, how dense your bones, how tall you are. It should be based on your Lean Body Weight—i.e., your muscles, bones, blood, lean organs, hair, skin, nails—all of you that is not fat tissue.

In adults, Lean Body Weight should make up at least 75% of your weight if you're female and at least 80% if you're male. The younger and more athletic you are, the greater that percentage should be. To calculate an Ideal Weight Target, multiply your Lean Body Weight by 0.75 if female and 0.80 if male. That figure should put you in the ballpark.

If I make some of the changes you recommend, like cutting back some of my carbohydrate intake, will I see improvement, or do I need to follow the program exactly to the letter to get results?

There's no doubt the closer you follow the program the better results you're going to get. We've tried cutting carbohydrate back incrementally and slowly bringing it down. And what we've found is that it doesn't do the job very well. When you want to correct an insulin problem, the very best thing you can do is to cut it back. Get the insulin controlled. Let the metabolic hormones stabilize and then go from there.

In the last decade, we've taken care of at least four to five thousand patients. We've tried everything. We've tried all different permutations of this plan. We've tried to ease carbohydrate back slowly and we've tried to really cut it back severely. What we've found works best is cutting carbohydrate intake back to the lower amount and then slacking up as the time goes on.

If you really want to get the best results, you have to cut back, period. As you get everything corrected—then you can add the carbs back in slowly.

Once you're approaching your goal—whatever that goal is, whether it's a weight goal or a body fat goal, cholesterol or triglyceride reductions—whenever you get to that goal, then the thing to do is to make the transition to maintenance. That carbohydrate level will be substantially higher than the one that we use in Phase I or Phase II.

Will I lose weight faster if I just cut out all carbohydrates altogether? Would it be dangerous?

Actually, it wouldn't be dangerous at all. There are a lot of societies that thrive without any carbohydrates. Australian Aborigines live in the desert and eat mainly meat diets because there isn't a lot of plant food available. Eskimos get almost no plant material in their diet and no carbohydrates.

Human biochemistry is designed to do very nicely without carbohydrate, but, if we don't get protein, we die. If we don't get fat, we die. We don't die as quickly as we do if we don't get protein, but we die nevertheless.

If we don't get carbohydrate, nothing happens. And that's why it doesn't make sense to go on a high-carbohydrate diet at the expense of fat and protein requirements. When we increase our carbohydrate intake and cut back on proteins and fats, we're taking in lots of something nature has given us the biochemistry to manufacture in our bodies. And we're doing it at the expense of these two nutrients that we absolutely need. So as far as not eating any carbohydrates, yes you could, but you'd miss out on some of the phytochemicals and the antioxidants we find in plant food and that we need to be truly healthy.

Eating only meat gets pretty boring, too. That's really why we modified our plan in the way that we did. If you just put in the 7 to 10 grams of effective carbohydrate per meal on Phase I, the most restrictive plan, you still have plenty of room for green vegetables, colorful vegetables, cruciferous vegetables and certain fruits. You can still get all those phytochemicals and other micronutrients that maybe we haven't even discovered yet that occur in those kinds of foods.

I've hit a plateau. What can I do to get things going again?

That's a difficult question and the answer depends on the person.

If you're a small person, you may not be able to tolerate as many calories as you're eating. One of the things we sometimes tell smaller people to do is to drop their calorie intake just a little bit. You have to create a deficit to lose fat, and if you're taking in more calories than you're burning, you're not going to lose weight.

The first thing you want to do is really look at your carbohydrate intake. If, for example, you've stepped from Phase I up to Phase II and you're eating fifty-five or sixty grams of carbohydrate a day and you've stopped losing weight, you may not be able to lose weight at that carb level. You'll need to drop back to Phase I and pick up there again. Usually that solves the problem.

Try not to focus on *weight loss* as much. Instead, focus more on *fat loss*. Make sure the reason you're not losing weight is because you're gaining muscle. If you've been protein-deprived—if you've been on a low-fat diet for a long time—you may have been protein-malnourished. And when you're suddenly getting reasonable amounts of good quality protein, you start to build Lean Body Mass.

Lean Body Mass weighs more. If you get on the scale and you've lost three pounds of fat in a week, but you've gained three pounds of muscle, you won't see any weight difference. But you *are* making progress! In actuality you've recomposed your body. You're slimmer. It's just not reflected on the scale.

One way to check that out is at the very beginning of your plan. Choose one article of clothing—a pair of jeans or fitted skirt—and use that article of clothing as your benchmark. If it's too tight when you begin, once a week, every week, try to put that thing on. Some weeks your progress may not show up on the scale, but it will show in the way your clothing fits.

Something else you should be aware of is that if you start an exercise program—especially if it's a weight resistance program—you're going to build some muscle. So you may be going along losing weight and then boom, suddenly stop. What may be happening is that you're exchanging body fat weight for lean muscle weight. Just keep in mind that this is a good thing! When you swap of a pound of fat for a pound of muscle, it's always good. Muscle is metabolically active lean tissue; it uses more calories than fat. And every pound of lean muscle you build is that many more calories you burn in a day.

Lastly, try not to focus on the scale. It can bring you to a lot of grief in the long run. Pay more attention to the way your clothing fits and don't worry about the scale. Hang in there and things will turn around for you.

Medical/health questions

I was feeling fabulous and all of a sudden I'm feeling exhausted and my legs are starting to ache—should I be concerned?

This describes an almost text book case of **hypokalemia**. We can't stress enough the importance of taking *potassium*. The vast majority of problems people have with this program come because they don't take their potassium. If you're taking over-the-counter potassium, take at least 4 of them (99 mg per tablet) per day.

hypokalemia
low blood
potassium

Because this program has a diuretic affect on the kidneys, it gets rid of potassium in the fluid they release. If you're feeling weird at all—if you experience lightheadedness, tingling, fatigue, deep muscle fatigue, muscle aches, or cramps—you're probably low on potassium. If it comes, it usually occurs about a week or so into the diet. If it does happen, we recommend you use Morton's light salt or *NoSalt* (which is a potassium substitute or a potassium salt) to salt things. And *make sure you take your potassium supplements*.

By all means, if the symptoms continue, you really should see your doctor and get your potassium level checked.

What should I do if I feel dizzy or lightheaded?

Sometimes that happens—it can happen on any diet. On this particular diet, in the first few days or the first week especially, your loss of fluid (and with it potassium and sodium) can sometimes make you feel a little bit dizzy or lightheaded.

Anytime you feel dizzy, increase your fluid intake and start taking your potassium. If you've been taking it all along, you may want to consider raising the intake level just a little bit.

Add a little bit of sodium to your diet. This is probably the only time you're ever going to hear a doctor say to add sodium to your diet, but in this case you might need to. As your insulin level falls rapidly, sometimes you release excessive fluid a little too quickly, so you may need to add a small amount of sodium.

In the summertime it's especially important. If you're outside working in the yard or you're working out and you're sweating a lot, you're going to lose sodium and potassium. On *The Protein Power Plan*, if you start feeling a little bit dizzy, one of the things you may want to do is to increase your sodium by eating dill pickles for example, or drinking a cup of bouillon. They're a little on the salty side, and most of the time doctors will tell you not to eat them, but this is different. This is a different kind of nutritional structure, and eating a little bit of sodium not only *isn't* harmful, it may be *helpful*.

When can I stop taking potassium?

When you have reached maintenance, you can stop your daily intake; reserve extra potassium supplementation for summer months or periods of intense physical activity accompanied by sweating. During these times, you may still wish to take potassium periodically (say 2 or 3 days a week). If you have been

enzymes

there are millions of different enzymes—substances the body produces to facilitate chemical processes within the body

off the regimen for more than a brief “vacation” and are restarting, remember that falling insulin will deplete potassium and you should replace it accordingly.

I just started the program, and I’m feeling a little tired.

Why is that?

This is not uncommon when you first start on the program. We always tell our patients not to do anything too strenuous for a few days—until they adjust to the new diet. It takes a little time to make the **enzymes** needed to adapt to a lower-carbohydrate diet. Enzymes are what our bodies make to cause all the chemical reactions that go on in the body. When we start a new type of diet that requires new enzymes to make it work, it takes a few days for those enzymes to get produced by the body. Until that happens, your body still thinks it’s back on a high-carbohydrate diet. When your body does adapt, you’ll have more endurance and you’ll feel a lot better.

Patients sometimes experience is a sensation of feeling as though they’re “out of gas” in the first few days. If you feel that slump or if you feel hungry, don’t try to solve it by going out and eating carbohydrates. You’ll just put yourself behind the eight ball again. What you want to do is, if you’re going to eat, eat extra protein and fat. Keep some things readily accessible that are not going to disrupt the hormonal balance you’re working so hard to achieve.

Eat things like:

- any kind of nuts or seeds*
- lean cuts of meat, deli meat, leftover meat
- hard boiled eggs and deviled eggs.

These are all good alternatives to quickly get protein and fat into your diet and give you a little “pick up” without disrupting the metabolic harmony you’re trying to achieve.

*Peanuts are not as good because they are not a true nut. They’re a legume like a bean.

My indigestion seems to have gone away completely. Can you explain why?

In virtually one hundred percent of our cases, going on this program clears up gastroesophageal reflux. It’s because this program, by lowering insulin levels, shifts the production of certain microhormones called prostoglandins. They are what causes bad inflammation in the esophagus and even in the stomach. On this plan they shift into a different type that doesn’t cause the inflammation, and it happens very, very quickly.

People who have had indigestion will get better almost overnight on this diet. It works spectacularly quickly. If you’re on Prilosec or if you’re taking loads of antacids to stop these problems, when you start *The Protein Power Plan* you can get rid of it all because it’s going to get better. In most cases it will be better *within one week!*

How do menopause and estrogen replacement affect your diet?

During menopause, levels of reproductive hormones begin to decline, with a shift toward catabolism (body, bone, and muscle wasting). Estrogen replace-

ment alone or with provera can promote fluid retention and fat gain. In women who have undergone hysterectomy and ovarian removal, some estrogen may be necessary, but in women who still have ovaries, *natural* progesterone by itself may be a better option. Eating *The Protein Power Plan* diet will promote higher levels of the "mother" hormones from which reproductive hormones must be made after the ovaries begin to slow down or cease production. The diet also provides a better magnesium-to-calcium balance to keep bones strong and ward off osteoporosis.

I'm having trouble sleeping. Does that have something to do with the diet?

Heavy ketosis can cause sleeplessness. If you're producing and releasing a lot of ketones, you may have this problem. If you do, that means that you should increase your carbohydrate intake a little bit. If you're in Phase I, you could move up to Phase II. Or maybe just add a little more carbohydrate in your last meal of the day at dinner or at your evening snack.

Most people find they actually sleep a lot better when they go on this program. Very few have this problem with sleeplessness.

Do diets that are higher in protein cause a loss of calcium and weaken our bones? Will it make us prone to osteoporosis?

The theory behind this whole idea is that when you eat protein, it's broken down into substances that are a little bit acidic. Supposedly this more acidic blood somehow leaches the calcium out of the bones, and it can end up giving us osteoporosis at a later date.

Now all that sounds logical, but in fact it just doesn't happen. This has been studied extensively over long periods of time. What researchers have found is when people eat a lot of protein, especially meat protein, they don't have any increase in urinary calcium. In other words, they're not leaching the calcium out of their bones and losing it in their urine as the theory would imply.

And when we look at the skeletal remains of hunters and gatherers who ate two to three times the amount of protein considered "safe" for us today, you find their bones are seventeen percent *more dense* than ours—given the comparison is done between individuals of the same height and gender.

Lastly, there have been studies published recently that correlate the elevated insulin syndrome with bone loss. Because elevated insulin makes you get rid of calcium from your bones, it may actually be the insulin problem causing the osteoporosis! It certainly isn't the protein in the diet.

Is this program safe for someone 12 years old?

Yes, with some modifications. And with qualifications, depending on whether the child is normal weight and looking for a healthy diet, or overweight and needing to make a correction. An excessively overweight adolescent or teen should be evaluated by an endocrine specialist to be certain there aren't any hormonal disturbances or even benign pituitary gland tumors contributing to the weight problem. If there are no contributing problems, the child could

begin a modified Phase II program, deriving calories from lean protein, good quality fat, and about 60 to 100 grams of carbohydrate per day, mainly from low-starch vegetables and fruit.

Additional calories, if necessary, should come from protein and fat, not carbohydrate. Growing children (and interestingly enough, the elderly) need more protein per pound of lean body weight than adults. Calculate their protein need based on activity and rate their activity level as one activity category higher than their actual level of exercise. Normal weight children need extra protein and good fat, but can tolerate in the neighborhood of 120-150 grams of carbohydrate daily. It should come mainly from low-starch vegetables and fruits, but a modest amount of starch is acceptable. We would still recommend that you limit or avoid sugar in all its forms.

Can you do this diet while you're pregnant or nursing?

Pregnancy and nursing place an increased demand on the mother for both calories and protein. It is *not* safe to undertake a reduced calorie intervention during these times. But *The Protein Power Plan* maintenance program is actually a very healthy structure—plenty of lean protein, dairy protein, fresh colorful vegetables and fruits, no refined sugar, minimal wheat, corn, or potato starch. As long as you have normal, healthy kidneys, it's a great nutritional regimen.

Add the extra calories required to maintain weight during these special conditions (pregnancy and lactation) as lean protein, dairy, or good quality fats, and keep the carbohydrate at about $\frac{1}{3}$ more grams than your daily minimum protein requirement.

For example:

- If your daily minimum protein requirement was 75 grams per day, your carbs might increase to 90 or 100 grams per day during pregnancy or lactation.
- You would set your carbohydrate grams at about 30% more than that, or 120-130 effective grams per day.

Remember, you can have more protein and more good fat, but keep the carbohydrate fixed near this level. And remember to check any nutritional changes with your obstetrician before you make them!

Does Tenormin cause a rise in insulin?

Yes. Any drug of the beta-blocker or thiazide diuretic classes can cause a rise in insulin. Tenormin is a beta-blocker. If, in spite of careful adherence to your *Protein Power Plan* regimen, you must still take medications to control blood pressure, fluid, migraine headaches, or heart rhythm irregularities, speak with your physician to see if he or she could substitute a drug from another class to achieve the same goal.

How do smoking and smoking cessation affect the diet?

Smoking—particularly cigarette smoking—promotes the development of insulin resistance with all its attendant problems: obesity, lipid disturbances, atherosclerosis, hypertension, even diabetes. There is absolutely no reason to smoke, so why risk it?

Many smokers fear weight gain when they stop, and indeed, stopping cigarette smoking causes a transient drop in metabolic drive (probably about 10%) which makes weight loss/maintenance a little tougher for a while. Coupling this diet with your efforts to stop smoking makes your job easier—through improved insulin sensitivity and better magnesium balance. We've had people from all over the country tell us that when they began eating their *Protein Power Plan* diet, their craving for cigarettes lessened and they were able to entertain notions of quitting smoking for the first time in their adult lives. Many readers and patients have been able to stop smoking and still continue to lose weight.

Why do I have a funny taste in my mouth?

This diet can put some people in a slight degree of ketosis which is perfectly natural. When we restrict carbohydrates we tend to make a few more ketones which are nothing but a natural by-product of burning fat. But that's fine. Our body deals with them.

The body gets rid of ketones in a number of ways. One way is to burn them up. But when we're producing a few more than we're able to burn up, we get rid of the excess mainly in our urine. Some of it goes out through the stool and some of it goes out through the breath.

When excess ketones come out through the breath, they give the mouth a funny taste or what's perceived as bad or fruity-smelling breath. It's very easy to correct. You can increase your carbohydrate just a little bit until it goes away. You can also drink lots and lots of fluid so that you carry more of it away in the urine. Or, you can use some sort of breath freshener. But you have to be careful of using too many mints because some of them have a fair amount of sugar.

57

This is really only a problem in the early phases of the program. After you get going and you adapt, it tends to go away.

Will I be constipated on this program? If so, what can I do about it?

If you spend your carbohydrate grams on foods that are really high in fiber and high in phytochemicals, you won't be constipated. But there's more to it than fiber.

Sometimes people don't drink enough water or they don't get enough fat. It may sound crazy, but if you're really focused on keeping fat calories down and carb calories down—even though you're getting an adequate amount of protein and some fresh green vegetables and those kind of things—if you don't have enough fat in your diet, you can become constipated.

You also may want to look at exactly what protein sources you're using. Some people are relatively sensitive to the arachadonic acid found in red meat and egg yolks. If you look back at your diet diary and see that almost every day, almost every meal of protein is either red meat or egg yolks, it may be that arachadonic acid is making you constipated. Try backing away from those a little bit and eat fresh fish if you can get it—particularly cold water fish like salmon or mackerel that are high in EPA fish oil.

More people probably complain to us about diarrhea than about constipation. It's much more common, and we usually find it starts a few days into the pro-

gram and resolves as the program goes along. It's just one of those things that comes about with any kind of change in diet. Don't worry about it unless it continues. Then you need to be checked to make sure you don't have some sort of infection of a parasitic or bacterial nature.

Diet/food & nutrition questions

Do I have to spread my carbohydrates around throughout the day or can I just save them all up and eat them all at once?

You really can't save them up, unfortunately. Carbohydrates have an expiration date with each meal. There's a metabolic impact to eating carbohydrates.

If you eat ten grams of carbohydrate, you're going to raise your insulin a little bit. If you eat twenty or thirty grams you're going to raise it more. If you've saved up all forty grams throughout the day and you eat them all at one time, you're going to have a metabolic impact—your insulin's really going to go up. When that happens, it's almost like climbing right back on the insulin roller coaster—up goes the insulin, down goes the blood sugar and then up goes the hunger and the cravings. You really do yourself more harm than good when you try to save up carbohydrates and use them all at one time.

If you plan to eat a little bit more carbohydrates than normal, the time to do it is in the morning. Insulin receptors are more effective in the morning than they are later in the day. They actually move sugar out of the blood more quickly with less insulin.

58

How much protein can the body use at any one sitting?

The amount depends on the size of your Lean Body Mass, but in general, about one-third of your daily protein requirement is a good portion size. Remember that early man did not have a predictable food supply—one day he might have a feast and then have nothing for days. Our body is flexibly designed to make use of what it can on an irregular schedule, but spreading intake out more evenly certainly helps to stabilize insulin and blood sugar levels.

Does the body store excess protein as fat?

No, not easily or efficiently. Fat is a storage form of energy; the body rarely likes to use protein for energy. It mainly uses protein as raw building material for the production of millions of protein compounds needed to replace the wear and tear of daily living. It will, however, easily store excess fat and carbohydrate as fat—but only in the presence of an elevated level of insulin in the blood.

Can the body break down muscle mass and turn that protein into carbohydrate?

Yes, if it has to. The liver can, by reassembling certain amino acids, manufacture about 200 grams of glucose per day to meet the needs of the few tissues in the body that can only burn glucose for fuel—the red blood cells and certain cells in the eye, kidney, and brain.

In a state of starvation, the body will break down its own muscle mass to meet this need, but with an adequate amount of dietary protein, it will spare its muscle mass and make glucose from the dietary protein. As long as you keep your dietary protein at or above the recommended minimums in *The Protein Power Plan*, your liver will take those proteins and reassemble them into blood sugar as needed in a slow, controlled fashion.

Can I eat fruits and vegetables on this diet, or are they restricted?

By using the effective carbohydrate content counting method you can incorporate a wide variety of fruits and vegetables into your plan. You can eat a chef salad that is so big that you can't even eat the whole thing and not even come close to exceeding your carbohydrate limit—as long as you make the right choices.

The whole idea that low-carbohydrate diets don't contain fruits and vegetables (or don't contain very many) is a myth. It may have been true in the past, before people understood how to subtract the fiber out to get the effective carbohydrate content. Back in the old low-carbohydrate diets, you basically had meats and cheeses and not much room for fruits and vegetables.

Once you get started on *The Protein Power Plan* you'll see you get plenty of fruits and vegetables—probably more than you're really able to eat.

Why are fruits and vegetables limited and fats unlimited?

The amount of fruits and vegetables is limited by their tendency to raise insulin. Fats, on the other hand, do not stimulate a rise in insulin. We would not want to give you the impression fats are unlimited—to lose weight, you will certainly have to limit incoming calories at least to a level that creates a deficit between what you're eating and what you're using. But in all honesty, fats are so satisfying to the appetite, your body will usually limit your intake. Be sure they are good quality fats—butter, nut and seed oils, olive oil, oils from cold water fish—not trans fats, like margarine.

59

Don't vegetarian diets help people lose weight and cure diseases like cancer?

On any calorie-restrictive diet your insulin level will fall and you'll lose some weight. There are many people who follow a vegetarian lifestyle and lose tremendous amounts of weight. However, it's important to remember that losing *weight* is not the same as losing *fat*.

On a diet that is deficient in protein, as much as 50% of the weight lost may be from the lean body, not the fat mass. Weight is weight and it will certainly show up as a loss on the scale, but losing muscle will ultimately be counterproductive, since it is the lean mass that determines metabolic rate. The more you lose from this part of you, the lower your metabolic rate will become.

No evidence suggests that vegetarian diets cure cancer. The higher levels of phytochemicals from fresh colorful vegetables may help to prevent some cancers, but a diet high in good quality lean meat will stimulate the immune system even more.

The Protein Power Plan provides both benefits:

- It helps you to lose body fat instead of lean mass.
- It provides quality protein to support your immune system.

Any high-protein breakfast suggestions that don't require eating such "heavy" foods as meat and eggs in the morning?

You can use an over-the-counter prepared protein mix, such as Ultimate Protein System. Or how about a serving of cottage cheese with some fresh peaches or strawberries?

Or try this:

- Blend 2 parts cottage cheese to 1 part yogurt plus 3 or 4 fresh strawberries.
- Turn the mixture out into a strainer lined with a paper coffee filter and drain the liquid.

What remains will be a high protein, fruit-flavored "cream cheese." Spread this thick on a slice of low-carb toast.

Is it okay to have a protein drink at lunch?

Sure. A protein drink or protein bar can help provide good quality nourishment when you're too busy to eat. Look for a product that contains at least 20 grams of protein with a fair amount of whey protein. It should not have *any* trans fats, fructose, high fructose corn syrup, or artificial sweeteners, and have few total carbohydrates (under 15 grams would be best for Phase I or II intervention).

60

Should I count cottage cheese as protein or carb?

Both. You will want to count the protein in cottage cheese as a healthy contributor to your intake (7 grams per $\frac{1}{4}$ cup) but you must also remember that in dairy products, some carbohydrate remains from the lactose of milk. Cottage cheese has 2 grams of carbohydrate per $\frac{1}{4}$ cup. Hard and soft cheeses have about 1 gram or less per ounce, and fluid products (milk or yogurt) have the most. These fluid sources have about 1 gram protein and $1\frac{1}{2}$ grams of carbohydrate per ounce. That means an 8 ounce glass of milk has 12 grams of carbohydrate that you should count.

Do meats fried in flour contain high counts of carbs?

The number of carbs varies with the thickness of the coating. A light dusting may add only a few grams per small piece, whereas a thick batter may add considerably more, sometimes as much as 10 or 15 grams per piece. On average, 5 to 10 grams is a reasonable estimate. You can lightly dust and quickly pan fry in good quality oil occasionally.

What's the difference between hard cheese, soft cheese, and curd cheese?

Hard cheese usually comes in blocks—for example, cheddar, Gouda, Muenster, Swiss, Parmesan, Edam, blue cheese, and mozzarella. Soft cheeses include cream cheese and Neufchâtel. Curd cheeses are cottage cheese and ricotta. They differ in the amount of protein, fat, and carbohydrate they contain.

Do you have any use for leftover egg yolks and milk solids?

We would suggest feeding them to pets, but your vet might object. The yolks can be used to make homemade hollandaise sauce or mayonnaise if used right away.

Do you have an opinion on nut consumption as it relates to long term health?

Nuts are a good, portable source of high-quality fats and protein, available to us since hunter-gatherer times. Most of them have a few grams of usable carbohydrate, which you should be sure to account for in your daily totals while you are in Phase I or II. True nuts—such as almonds, macadamia nuts, pistachios, pecans, walnuts, pinon nuts, Brazil nuts, and cashews—all offer a healthy source of calories.

Peanuts—America's staple "nut"—are not really nuts at all, but legumes. They are higher in starch and more likely to stimulate allergy problems.

Use nuts to snack on or to add to foods. They're an especially good snack when you are on the maintenance plan.

How do you count nuts? As protein, carbohydrate, or fat?

A good question, since most nuts have a fair amount of protein and fat as well as some carbohydrate. Remember, within reason, you don't count fat and your protein requirement is a minimum not a fixed amount. Don't worry about the protein or fat content of the nuts—just count the effective grams of carbohydrate in your daily total. Among the true nuts, macadamia nuts have the best profile, because almost all their carbohydrate is fiber—very little is left to raise insulin.

61

Should I use mayonnaise? Light mayonnaise? Reduced-fat butter?

On *The Protein Power Plan* you can use the real thing in both cases.

Regarding mayonnaise, select one made from a good quality oil, not partially hydrogenated soybean oil or any other partially hydrogenated oil. Although canola oil has some ALA, it's actually not a bad choice for mayonnaise and you can easily find Canola Mayonnaise at most health food markets. If possible, make your own real mayonnaise from high quality oil. It's really quite easy to make mayonnaise in the blender. The type of oil you pick will color the flavor of the mayonnaise.

As far as butter goes, use real sweet cream unsalted butter. The fats in butter are mainly short and medium chain triglycerides, which you can use readily for quick energy.

Where you can find more information

Where can I find a good low-carbohydrate cookbook?

There aren't many out there yet, but a really good one was just released. The author, Fran McCullough, is not only a great cook, she has lived the low-carb

life herself. We've seen the book and the recipes are fabulous. It's called *The Low Carb Cookbook* and the publisher is Hyperpion.

Where can I get a copies of Dr. Michael Eades' book *Thin So Fast* and Dr. Mary Dan Eades' book *Freeing Someone You Love From Eating Disorders*?

These books are no longer in print, but quite often you can locate a copy at a used bookstore or through the book search service that many independent used book sellers offer. Some libraries also have the books in their collections or could locate a lending copy for you through an inter-library loan service.

Is the information in *Thin So Fast* obsolete or can I still use it?

This book details how to undertake a modified protein sparing fast (4 high protein shakes a day and a substantial protein meal) as well as how to make the shakes from easily obtainable ingredients. It is still a useful program and the book contains a wealth of valuable information. Since the publication of the book, many commercial manufacturers have produced ready-made shakes that fit the bill. Among them are the Twin Labs shakes and the Ultimate Protein System product.

Don't forget: We've included a postage-paid form in the back of the workbook. If you have any questions or comments, or if you'd like to share your success on *The Protein Power Plan*, send it in!