

28 DAYS TO DIABETES CONTROL!

LOWER YOUR BLOOD SUGAR, IMPROVE
YOUR HEALTH—AND REDUCE YOUR RISK
OF DIABETES COMPLICATIONS

LANCE PORTER

EDITOR-IN-CHIEF "DIABETES POSITIVE!" MAGAZINE

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FOREWORD

I was very honored when Lance Porter asked me to write this foreword for his book.

I first met Lance when he interviewed me for an article in *Diabetes Positive!* magazine. He contacted me because I was someone who knew diabetes both as a practicing physician and as a person with diabetes. I am a family practitioner in Cincinnati, Ohio, with a special interest in the care of people with diabetes (especially those who require insulin). And I have type 1 diabetes myself.

During that interview, Lance asked me questions not only about diabetes in general but also about the care of the diabetic patient. I was very impressed by his intense and genuine interest in understanding the dynamics of this disease—as well as its psychological impact on the patient. He had a degree of understanding you usually only see in someone with diabetes or in the loved one of a patient with diabetes. (Later I learned that his father was diagnosed with type 2 diabetes years ago.) His questions and interest went much deeper than needed to write the story of my own personal success with diabetes. It was his intense interest and his tireless study that enabled him to write this phenomenal book.

When you read *28 Days to Diabetes Control!* you will see that Lance not only understands the treatment of diabetes, but also the art and empathy needed to empower those of us who have this complicated disease with the ability to control it. Beyond a shadow of a doubt, this book gets to the heart of common sense diabetes care that is critical to achieving control. It offers a very specific and practical approach to people with both types of diabetes.

28 Days to Diabetes Control! also offers important general health information for nondiabetics and people concerned about their potential to become diabetic. It is an essential guide for anyone who has a friend or family member with diabetes. I also recommend this to my fellow physicians and other health-care professionals who need to build more successful diabetes strategies and management plans for their patients.

I know from personal experience how hard diabetes is to control. I was diagnosed with juvenile onset diabetes at the age of 21, just prior to graduation from college.

The standards of diabetes care then were very different than they are today. The insulin and dietary plan I was given was nearly impossible to follow. Even when it was followed perfectly, it was often unsuccessful. I thought my life was over. Through medical school my sugars were horrendous on twice-daily injections. I was on a roller-coaster: my sugars were either 40 or 300. There was no such thing as a planned or predictable healthy meal while working 48–72 hour shifts at the hospital. But the best advice my diabetes doctors offered was going back for dietary training.

Finally, after some persuasion, my primary care doctor allowed me to switch to multiple daily injections (often five or six) with insulin for meals so that my life did not revolve around my insulin doses.

This helped to some degree—but going into residency with diabetes was a nightmare. I remember running to code (resuscitate) a patient in the middle of the night at the hospital and bottoming out my blood sugars while giving chest compressions. Although it never happened, I feared it was inevitable that the coder (me) was going to “get coded” for low sugar coma/seizures. As you can imagine, I was very concerned that my diabetes would affect my ability to be a dependable physician. I remember worrying every moment about what my blood sugar was and what it was going to do.

Before graduating residency, about seven years ago, I discovered the insulin pump. At that time, not many doctors knew much about the insulin pump—although it had been available for years. To me, it looked like the most natural way to administer insulin for tighter control and a better lifestyle. But again, my diabetes doctors were reluctant to approve a change (most likely out of lack of knowledge about this type of therapy).

After more persuasion, I convinced my residency professor to help me get on the pump. That was a momentous day! The roller-coaster of ups and downs and crazy feeling totally went away. I was able to get more predictable blood sugars for the first time. On that day everything calmed down and a sense of stability came over me. I got back the part of my life that poorly controlled diabetes had taken away.

During this period, researchers discovered that tight control of diabetes meant fewer long-term complications. Balancing your diet, exercise, and medications to control diabetes—as Lance shows you how to do in this book—does pay off!

Medical science has come light-years in the treatment of diabetes since I was first diagnosed. Today you don’t have to learn how to control your diabetes through years of trial and error. You can take the bull by the horns and control this difficult disease. If you’re newly diagnosed, *28 Days to Diabetes Control!* will get you off to an outstanding start. If you’ve been struggling with diabetes control for years, you will find the answers you’ve been searching for here. Enjoy your 28-day program and remember: control this disease or it will control you!!

—Michael Heile, M.D.

Editor’s note: In addition to practicing medicine and controlling his diabetes, Dr. Heile is a marathon runner and a gifted singer/songwriter who performs regularly in the Cincinnati area.

INTRODUCTION

YES, YOU CAN LIVE A LONG, HEALTHY, FANTASTIC LIFE WITH DIABETES!

According to the U.S. Department of Health and Human Services, there are 18.2 million people with diabetes in the United States. You are probably reading this book because you—or someone you love—just became part of that statistic.

You're probably not too happy about it. Learning that you have diabetes is not *good* news. But it's not as bad as you may think. It's not the end of the world, and it doesn't have to compromise your life. You can't *ignore* diabetes. But you don't have to be stopped by it. Read this book, discuss it with your doctor or diabetes educator, and then—get with the program! Get your diabetes under control, and you can live out any dream you had before you were diagnosed.

The two absolutely essential things you must know about this disease are:

- > One, that diabetes is *very serious*. Don't take it lightly! Diabetes can cause blindness, amputation, kidney failure, nerve damage, heart attack, stroke—and, ultimately, death.
- > Two, that none of the devastating complications of diabetes are *inevitable*. Keeping your diabetes under control can help to prevent them. If you learn to maintain your blood sugar at normal or near-normal levels, you may *never* experience any of the complications of diabetes.

An important secondary benefit is that you will *feel* better. Keeping your diabetes under control will give you more energy, help you think more clearly, and improve your performance at school, at work, and at play.

The 28-day program in this book is designed to get you started on the right foot. It will help you understand how three key factors affect your blood sugar levels: food, exercise, and medication. And it gives you a simple, effective, easy-to-follow program that shows you how to *use* those three factors to keep your blood sugars at normal or near-normal levels.

HOW TO USE THIS BOOK

Diabetes is a complicated disease, and before you can control it, there are certain things you need to know.

The first step is to read Part One. Part One of this book provides you with the key information you must have to control diabetes. Although it is concise, it is comprehensive—everything you really need to know is there.

The second step is to *learn by doing*. That's what you'll do in Part Two of this book, which is the 28-day program itself. You can't learn how to control diabetes just by reading about it. Because everyone's diabetes is different, even your doctor can't tell you *exactly* what to do to bring your blood sugar down to normal or near-normal levels. You have to figure out for yourself how to balance your exercise, diet, and (if you use them) medications or insulin. The structured, practical 28-day program will help you work that out as efficiently as possible, with journal pages provided for each day, allowing you to record all the factors that affect your blood sugar levels. The instructions that come with each journal page explain how to analyze the information you're recording and make changes to get better results every day.

When you complete the 28-day program you will be the world's leading expert on *your own diabetes*. You will know precisely how the foods you eat and the exercise you do—along your insulin or medications, if you use them—affect your blood sugar levels. You will have the knowledge and skills to control your diabetes, and *keep* your diabetes under control for the rest of your life.

What should you do after that? Live your life! Do whatever you planned to do before you were diagnosed. Or make new plans, take new paths, dream new dreams—and make them come true. *You can do it!*

Let's get started.

PART ONE:

**WHAT YOU MUST KNOW
BEFORE YOU BEGIN YOUR
PROGRAM**

CHAPTER 1

WHAT IS DIABETES?

Diabetes is a chronic condition in which blood sugar (also called glucose) accumulates in your blood. The full name of the disease, *diabetes mellitus*, literally means “honey diabetes.” Since the time of ancient Greece, people have noticed a sweet or honeyed smell in the urine of those affected by the disease.

There is no *cure* for diabetes. However, diabetes can be *controlled*. Controlling diabetes means keeping your blood sugar at levels that are the same as—or close to—those of a person who does not have diabetes.

There are two primary kinds of diabetes, and the *cause* of your elevated blood sugar depends on which kind of diabetes you have.

TYPE 1 DIABETES

Type 1 diabetes used to be called “juvenile diabetes” because it normally occurs in people under the age of 30. If you have type 1 diabetes, your pancreas no longer produces insulin, a vital hormone that helps your body turn sugar into energy. Without this essential hormone, the sugar in your system accumulates in your blood. Type 1 diabetes is considered to be an “auto-immune” disease. It occurs when the immune system mistakenly attacks the pancreas and destroys its ability to make insulin.

Although family history plays a role in the development of type 1 diabetes, 90 percent of the people who get it have no family history of the disease at all. No one knows for sure why it strikes some people and not others. People with type 1 diabetes have to take insulin to control their blood sugar.

TYPE 2 DIABETES

Type 2 diabetes used to be called “adult onset” because it normally occurs in people over the age of 30. Type 2 diabetes is more likely if you have a family history of diabetes. It is closely related to excess weight and a lack of physical activity. African-Americans, Latinos, Pacific Islanders, Asians, and Native Americans are all at high risk for type 2 diabetes.

Although type 2 diabetes normally strikes people over the age of 30, it is on the rise among children. Experts think this is directly related to a lack of physical activity and the increase in obesity among the young.

If you have type 2 diabetes, your pancreas still makes insulin. But it may not make enough, or your body may have become resistant to it. The first line of treatment for type 2 diabetes is exercise and weight loss—many people can control their blood sugar levels with exercise and diet alone. There are also oral medications that can be used to treat the disease. Type 2 diabetes tends to be progressive, and a substantial

number of people with type 2 diabetes ultimately need to take insulin to control their blood sugar.

Of the two types of diabetes, type 2 is by far more common. Between 90 percent and 95 percent of all cases of diabetes in the United States are type 2, and the incidence of type 2 diabetes is increasing at an alarming rate, driven by our increasing weight and increasingly inactive, computer-focused lifestyles.

In a way, type 2 is the more dangerous of the two types of diabetes. Type 1 is impossible to ignore. If you have type 1 diabetes and you ignore it even for a few days, you wind up in the hospital. But type 2 often starts slowly. At first your pancreas may still be making a fairly good amount of insulin, or you may only have mild insulin resistance, and your blood sugar levels may only be slightly elevated. If you ignore it, nothing catastrophic happens *immediately*. So some people with type 2 diabetes are less stringent about caring for their diabetes than people with type 1. But with any type of diabetes, ignorance is not bliss. Take care of it right from the start, or the results *will* be catastrophic in time.

GESTATIONAL DIABETES

In addition to type 1 and type 2 diabetes, there is a third kind of diabetes which is unique in that it is usually temporary: *gestational diabetes*. Gestational diabetes affects up to 4 percent of all pregnant women. Experts estimate that there are between 100,000 and 135,000 cases of gestational diabetes in the United States each year.

Risk factors for gestational diabetes include:

- > The mother's age (older mothers are more likely to get gestational diabetes than younger mothers)
- > Obesity
- > Family history of type 2 diabetes
- > Ethnic background: African-Americans, Hispanics, Native Americans, and Asians are at high risk
- > Gestational diabetes in a previous pregnancy
- > History of delivering a baby heavier than nine pounds at birth

The prevalence of gestational diabetes in certain high-risk groups can be as high as 14 percent.

Women are usually screened for gestational diabetes at the end of their second trimester of pregnancy, roughly 24–26 weeks after conception.

It is very important to take gestational diabetes seriously, because it has the potential to harm both the mother and baby. When you have gestational diabetes, your pancreas is working overtime to produce insulin, but the insulin does not bring your blood sugar down to normal levels. Insulin does not cross the placenta, but the extra sugar in your blood does. Since the baby is getting more energy than it needs to grow and develop, the extra energy is stored as fat. This can lead to a fat baby, which risks damage to the shoulders at birth. Additionally, the newborn may have very low blood sugar at birth and be at risk for breathing problems. Fat babies become children who are at risk for obesity and adults who are at risk for type 2 diabetes.

The treatment for gestational diabetes is exactly the same as for type 1 or type 2 diabetes: keeping your blood sugar at the same level as a mother who does not have diabetes, or as close to it as possible. In

many cases, this can be accomplished by diet and exercise alone. In fact, nutrition and lifestyle management is the only treatment necessary for up to 75 percent of women with gestational diabetes. If that doesn't adequately control your blood sugar, insulin may be used as well.

Women who have gestational diabetes once are at high risk to have the same problem again in later pregnancies. They are also at higher risk of developing type 2 diabetes later in life. So experts strongly recommend that you take this experience as a warning, and do everything you can to return to a normal weight after pregnancy and make regular physical exercise part of your daily routine for the rest of your life.

In some cases, gestational diabetes turns out to not be pregnancy-related at all. Instead, it is possible that you had either type 1 or type 2 diabetes that just happened to be caught by the gestational diabetes screening that is routinely given to women around the 26th week of their pregnancy. In that case, of course, your diabetes will not go away when you deliver your baby. That's why it is essential that women with gestational diabetes be tested six weeks after delivery to make sure their blood sugar has returned to normal.

CHAPTER 2

DIABETES SYMPTOMS AND DIAGNOSIS

Diabetes is a tricky disease. Sometimes the symptoms are unmistakable. In other cases, a person can have diabetes for years and never show any signs of it.

SYMPTOMS

Some of the classic symptoms of diabetes include:

- > Unusual thirst
- > Having to urinate frequently
- > Sudden or unexplained weight loss
- > Unusual hunger
- > Fatigue
- > Mood swings and irritability
- > Frequent skin, gum or bladder infections
- > Blurred vision
- > Numbness or tingling in the extremities
- > Cuts or bruises that are slow to heal

The symptoms of diabetes normally go away completely as soon as you get your blood sugar under control.

DIAGNOSIS

Diagnosing diabetes is a very simple procedure. Diabetes means “elevated blood sugar,” and your doctor diagnoses it with a blood sugar test. The “gold standard” is a test of your blood sugar level after an eight-hour fast. The easiest time to do it is in the morning before you have anything to eat or drink. Normal people have fasting blood sugar levels below 100 mg/dL. A value between 100 and 125 indicates that you have what is called “impaired fasting glucose,” or pre-diabetes. A value of 126 mg/dL or higher indicates that you have diabetes. Your doctor may repeat the test just to make sure.

CHAPTER 3

FIVE ESSENTIAL FIRST STEPS

If you were just diagnosed with diabetes, your mind is probably spinning and your emotions are probably on a roller-coaster ride. But take heart! You're going to be just fine. Diabetes is *not* a death sentence. Now is the time to keep a cool head and put together a practical program to keep this disease in control. In addition to following the program outlined in this book, here are some other essential steps you need to follow to get your diabetes under control—and get on with your life.

STEP ONE:

ASSEMBLE A GOOD MEDICAL TEAM

Because diabetes can affect your health in a variety of ways, the best way to treat it is by assembling a health-care team. Ideally, your team should include:

Your primary physician. Everyone with diabetes needs to be in the care of a capable physician. *But it doesn't necessarily have to be the person who diagnosed your diabetes.* You're going to be seeing your doctor at least three or four times a year, and you'll be relying on this physician to recommend the other members of your health-care team. So find someone you like, trust, and are comfortable with. Don't settle for just anyone. Find a doctor who has *experience treating patients with diabetes* and is willing and able to take the time to listen to your concerns and answer your questions.

Make sure your doctor keeps up with the latest developments in diabetes treatment. Diabetes care is rapidly evolving, and unless your doctor keeps up with the latest advances, you may not get the quality of care you deserve and need. If your doctor doesn't take care of a lot of people with diabetes, you may be better off with an endocrinologist—a doctor who has advanced training in dealing with diabetes and other hormone-related diseases—or a diabetologist, a specialist who only takes care of people with diabetes.

It's your health that's at stake here. If your doctor doesn't help you get your blood sugar levels at near-normal levels in short order, do not be afraid to change doctors until you find one who will!

A certified diabetes educator. Ideally, in addition to your physician, you'll also want to see a certified diabetes educator. A diabetes educator will teach you the practical techniques of dealing with diabetes, including how to take your insulin or other medicine, how to measure your blood glucose levels, and much more. Your doctor may recommend an educator, or you can call the American Association of Diabetes Educators at 800-832-6874.

A registered dietitian. Eating the right diet is a critical part of diabetes therapy. Your certified diabetes educator can answer many of your questions about diet, but you may also want to see a registered dietitian. Again, your doctor may recommend one who works with people with diabetes. Or you can call the American Dietetic Association at 800-366-1655.

An ophthalmologist. Because diabetes can damage the eye, you will definitely want an ophthalmologist (an eye doctor) on your health-care team.

Experts recommend that people with type 1 diabetes get a *dilated retinal examination* once a year, starting five years after the onset of diabetes. People with type 2 diabetes should have a yearly dilated retinal examination starting *immediately* after diagnosis—because type 2 diabetes is often not diagnosed until you have had the disease for many years. (Many people first learn they have diabetes when their ophthalmologist finds diabetic retinopathy during a routine eye exam.) Women with gestational diabetes are particularly at risk for diabetic retinopathy, and some experts recommend that they have their eyes examined every three months during their pregnancy.

Early detection is the key. Much can be done to prevent and treat diabetic eye disease. The sooner your ophthalmologist spots it, the better job he or she can do of stopping it.

A dentist. One of the complications of diabetes is dental problems, including cavities and gum disease. When diabetes is poorly controlled, the levels of sugar in your saliva are just as high as in your blood, and that causes tooth decay. High blood sugar levels also damage the blood vessels in your mouth, reducing the flow of oxygen and nutrients to the gum tissues and weakening their resistance to infection.

Your best defense against dental complications is good diabetes control. Keep your blood sugar levels at normal levels, and you're not likely to have any more dental problems than someone who does not have diabetes.

But it doesn't hurt to practice good dental hygiene! Brush your teeth twice a day, and floss to get at plaque between your teeth that the brush can't reach. Replace your brush often. See your dentist regularly. And have your teeth professionally cleaned at least every six months.

A podiatrist (foot doctor). If you have circulatory problems or nerve damage in your feet, you will also want to see a podiatrist. Even if you don't have problems it's a good idea to visit the podiatrist every year to make sure everything is fine.

People with diabetes—especially if it is poorly controlled—often experience some degree of diabetic neuropathy, the impairment or damage of nerve function due to increased blood sugars. This can result in tingling, burning or numbness in the hands or—even more frequently—the feet. It can also result in a decreased ability to feel pain, especially in the extremities.

The way to prevent neuropathy is to control your blood sugar levels. Good diabetes control has been proven to *dramatically* decrease your risk of neuropathy.

In any case, be sure to visually inspect your feet every day. Make sure you don't have a cut or blister you're not able to feel. It's important to take care of any kind of injury to the foot right away, because foot injuries in people with diabetes can be very hard to heal.

STEP TWO:

LEARN EVERYTHING YOU CAN ABOUT DIABETES

People with diabetes manage their own health. Your doctor and the rest of your health-care team will help, of course. But, day-to-day, *you* must administer your own treatment. Your medical team can *help* you get your diabetes under control. But only *you* can actually do it. It's generally accepted that 5 percent of diabetes care is up to your doctor, and 95 percent is up to you.

So read up! Do the research. Find out all you can about diabetes—so you can deal with it *effectively*. Reading this book is absolutely the best place to start.

Check out the diabetes magazines, too. Diabetes care is constantly changing. Important new products that can help you control your diabetes come on the market virtually every month. You would be wise to subscribe to at least one magazine to keep up with the latest advances. Good choices include *Diabetes Positive!*, *Diabetes Interview*, *Diabetes Self-Management*, and *Diabetes Forecast*.

It also helps to surf the Web. The American Diabetes Association has a Web site, as do many other organizations that can help you live well in spite of the challenge that diabetes represents. Almost all of the major manufacturers of diabetes medicines, supplies, equipment and insulin also have their own sites, many of which are very helpful.

STEP THREE:

PREPARE

Prepare yourself, both physically and mentally, to deal with this new challenge.

Gather the supplies you need, including your insulin or any other drugs your physician may have prescribed, and a blood glucose meter. Make a plan. Decide when you're going to exercise and what you're going to eat.

STEP FOUR:

MAINTAIN A POSITIVE ATTITUDE

Your long-term health depends on maintaining a positive attitude as much as anything else.

If you think you are depressed, tell your doctor right away. Depression is nothing to be ashamed of—people with diabetes suffer from depression at a rate that is two to four times higher than the general population. The key is to do something about it! Professional counseling, support groups, and antidepressant medicines can all help you get back on track. Exercise is also a highly effective antidepressant.

For fighting off everyday garden-variety blahs and generally keeping your chin up, positive thinking techniques—visualization, positive self-talk, affirmations, relaxation, and meditation—can be tremendously helpful. Now is the time to start learning about them.

STEP FIVE:

ACCEPT THE SITUATION, AND GET STARTED ON YOUR NEW LIFE

The people who do best with diabetes are those who, first of all, accept it. They take positive steps to deal with it. And then—*they get on with their lives*. They feel they have a mission, a purpose, a reason for living. They feed their minds a steady diet of positive thoughts. They love, they work, they laugh, they play, they plan for the future and live their lives, just like anybody else.

Your diabetes and your health are completely under your control. Take good care of yourself and you'll live a long, happy, healthy life!

CHAPTER 4

NORMAL BLOOD SUGAR = LESS CHANCE OF COMPLICATIONS

Whatever type of diabetes you have, the most important single fact you can know is this: the closer you keep your blood sugar to normal levels, the less chance you will ever experience any of the complications of diabetes.

Even though that statement seems like common sense, and many people suspected as much for years, we didn't know *for a fact* how important close control of diabetes was until recently.

WHAT YOU MUST KNOW ABOUT THE DIABETES CONTROL AND COMPLICATIONS TRIAL (DCCT) AND THE UNITED KINGDOM PROSPECTIVE DIABETES STUDY (UKPDS)

The two studies that proved conclusively how important it is to keep your blood sugar close to normal were the Diabetes Control and Complications Trial and the United Kingdom Prospective Diabetes Study.

The Diabetes Control and Complications Trial (usually just called the DCCT), conducted from 1983 to 1993 by the National Institute of Diabetes and Digestive and Kidney Diseases, was, at the time, the most comprehensive diabetes study ever. It involved 1,441 volunteers with type 1 diabetes at 29 medical centers in the United States and Canada.

This study compared the effects of two treatment regimens—*standard therapy* (typically one or two shots of insulin a day) and *intensive control*—on the complications of diabetes. Participants in the intensive control arm of this study tested their blood sugar levels four or more times a day and took four daily insulin injections or used an insulin pump. They adjusted their insulin dose according to food intake and exercise, followed a diet and exercise plan, and met with their health-care team monthly.

The results: *Intensive control reduced the risk of eye disease by 76 percent. It reduced the risk of kidney disease by 50 percent. And it reduced the risk of nerve disease by 60 percent.*

Although the DCCT focused on people with *type 1* diabetes, its findings were confirmed by an even larger study called the United Kingdom Prospective Diabetes Study (UKPDS), which compared conventional and intensive therapy in more than 5,000 newly diagnosed people with *type 2* diabetes.

The UKPDS confirmed that reducing blood sugar levels dramatically reduces the risk of complications in people with *type 2* diabetes. It also found that controlling blood pressure, among those with diabetes whose blood pressure is high, dramatically reduces the risk of diabetes complications—especially including the risk of strokes and the risk of vision damage.

Make no mistake: keeping your diabetes under control greatly reduces your risk of all the major complications of diabetes, and can help you live a long, healthy, *fantastic* life.

CHAPTER 5

TESTING YOUR BLOOD SUGAR

It wasn't so long ago that the only way to check your blood sugar was to mix a few drops of urine with Benedict's Solution, which changes color in the presence of sugar when it is heated. The color the solution changed to gave you a very rough estimate of your blood sugar.

Even as recently as the 1970s, the standard way to check blood sugar was only slightly more sophisticated. Test strips were available that reacted with urine immediately, eliminating the need for mixing and heating a solution. But the result was essentially the same: the test strips turned color depending on the amount of sugar in your urine. By comparing the resulting color with a color chart, you got a rough idea of whether your blood sugar was low, normal, or high.

Today blood glucose monitors give a *digital readout* of blood sugar levels in a matter of seconds, with a single droplet of blood. More than any other single innovation in this disease, the invention and use of these awesome monitors make the tight control of diabetes possible. Make no mistake, the simplest blood glucose monitor on the market today is nothing less than a medical miracle.

CHOOSING A MONITOR

A blood glucose monitor is the one essential tool that every person with diabetes *must have* to keep their blood glucose levels under control. It's such an important tool that we review all the available monitors in *Diabetes Positive!* magazine—every June and December. The pace of innovation in the development of new blood glucose monitors is *fantastic*, with six to eight new ones appearing every year.

When picking out a monitor, here are some key features to look for.

Alternate site testing. As recently as three or four years ago, all blood glucose monitors required you to prick your fingertip for the drop of blood the test requires. But now there are monitors that allow you to use “alternate sites”—which is to say, sites other than the fingertip—for your blood sample. The most common and most frequently used of these alternate sites is the forearm. Your forearm has fewer nerve endings than your fingers do. So forearm testing, for most people, is much less painful. Other “alternate sites” may include the palm, upper arm, thigh or calf, but the forearm is the one most people use.

Because there are differences in the amount of muscle and fat found in different parts of your body, it may be possible to test in two different places at the same time and get two different results. This happens most often when your blood sugar levels are rapidly changing: after a meal, after an insulin dose, or after exercise. Changes in blood sugar tend to show up more quickly in a fingertip sample than a sample taken from the forearm.

For that reason, experts recommend that you use the fingertip when you're testing less than two hours after a meal, after an insulin dose, after physical exercise, or any other time you feel that your blood sugar may be rapidly changing. Testing on the forearm is fine when you're testing first thing in the morning, before a meal, or before exercise. "Alternate site" monitors give you that option.

Speed. Another factor you might want to consider is how long the monitor takes to compute a reading. The monitors on the market today take between five and 45 seconds to compute a reading. That may not seem like a wide range, but there's a big difference between waiting 45 seconds for your reading and waiting five seconds, especially when you're testing frequently. It's not hard to see why most people choose faster monitors.

Sample size. By and large, monitors that are approved for "alternate site" testing use much less blood than those that are approved for fingertip testing only. Although there are still monitors on the market that require a "full hanging drop" of blood, you'll probably be happier choosing one of the newer models that uses the "wicking" type test strip that requires only a tiny droplet of blood.

Meter memory. Whether a monitor records only the date, time and results of a few dozen tests or it logs and presents months of diabetes information with onscreen charts, you'll need your blood sugar meter to have a good, easy-to-use memory. This function is especially important when you're trying to understand how your blood sugar is behaving over time.

Beyond those basic functions, you'll find monitors on the market with a dizzying array of features. Only you can decide which one is right for you!

HOW OFTEN TO TEST

According to the American Diabetes Association (ADA), most people with type 1 diabetes and pregnant women taking insulin should test three or more times a day. While there is no specific recommendation for people with type 2 diabetes, the ADA does recommend that you test as often as needed to reach your target blood sugar levels. Many health-care professionals encourage their patients with type 2 to test at least twice a day. It is also recommended that you record the results of every test, including the time the test was taken, and major factors that could have affected the results, especially information concerning insulin or medication, what you ate, and exercise.

Of course, there's nothing to keep you from testing *more* often than recommended. In fact, especially when you are newly diagnosed, frequent testing is the only way to know for a fact what's going on in your body. One of the most incredible people we ever profiled in *Diabetes Positive!* magazine is Ozzie Roberts, who is 85 years old, travels to the most remote regions of the world, and has never experienced *any* complications of diabetes. Even after 61 years with diabetes, Ozzie still tests *14 times a day!* As Ozzie says, he doesn't just want to know what his blood sugar *is*. He wants to know *what direction it is going*, so he can head it off.

WHEN TO TEST

Excellent times to test your blood sugar include:

First thing in the morning, before you have anything to eat or drink. This test can tell you if you're staying at a safe blood sugar level overnight. If your levels are too low in the morning, you may have to reduce your insulin or medication, or have a bedtime snack.

Before lunch and dinner, to help you decide what and how much to eat, and also how much insulin or medication you should take.

Two hours after meals, to find out how what you ate has affected your blood sugar levels. You may find that certain foods cause an unacceptable spike in your blood sugar, for example, and you'll learn to avoid them.

Before exercise, to help avoid hypoglycemia (low blood sugar.) Exercise usually lowers your blood sugar level, so you don't want to exercise when your blood sugar is already low. Make sure your blood sugar is above 100 before you start exercising. Testing *after* exercise is also important, since the lowering effects of exercise sometimes don't kick in for hours.

When your insulin dosage or diabetes medication changes, to see how your body is reacting. More frequent testing is also recommended when you are ill or under stress or make major changes in your daily routine.

THE SINGLE MOST IMPORTANT TIME TO TEST

Beyond doubt, the *single most important time* to test your blood sugar is just before you get behind the wheel of a car. When you're going for a drive, your short-term safety—and the safety of others on the road—is more important than your long-term blood sugar control. The FAA requires pilots with diabetes to test their blood sugar before they fly, and to make sure it is at least 100. The same rule applies to driving—make sure your blood sugar is at least 100 before you get behind the wheel. If it is not, have a snack and test again before you turn the ignition key. If you're going for a long drive, be sure to take snacks with you, and test again every hour or so. One of the very first symptoms of low blood sugar is mental confusion, which can be fatal to you and to others when you are driving. So always test before you drive. No exceptions! Ever!

YOUR TARGET RANGE

What blood glucose level do you want to see when you test? Well, a normal blood sugar level *for someone without diabetes* is 70–110 mg/dL before a meal, and less than 120 two hours after a meal. Your doctor may set a slightly higher target range for you—typically from 90–120 mg/dL or 90–130 mg/dL before a meal, and less than 140 or 150 (some recommend 180) two hours after a meal—which is “near normal.” To avoid the complications of diabetes, you don't want to let your blood sugar go too high. To prevent experiencing problems with hypoglycemia (low blood sugar), you don't want it to go too low. Yes, it's a

balancing act, but it's one that you will master soon enough.

No matter how hard you try, you will not hit your target range 100 percent of the time. It can't be done. But keeping your *average* within range *is* possible. Even if you have the occasional bad day—and everybody does—your goal should be to keep your weekly averages in line with your doctor's recommendations.

If you test often enough and pay attention to what you eat, what you did, and what insulin or medication you took before testing, your blood glucose monitor will *teach you* exactly what you need to do to keep your blood sugar levels in a desirable range.

CHAPTER 6

UNDERSTANDING YOUR A1c

The blood glucose test you do at home tells you how much sugar is in your blood *at the moment it is tested*. There's another test available that tells you how much blood sugar has been in your bloodstream *on average* for the past three months. This test used to be called the Hemoglobin A1c or HbA1c test. Today it is simply called the A1c. A1c is the technical name for a component of hemoglobin that blood sugar binds to within your red blood cells. Once blood sugar binds with A1c it stays bound for the life of the cell, which is about three months. By measuring the amount of blood sugar bound to your A1c, laboratory technicians can get a very good reading of your *average blood sugar levels* for the past 90 days.

The DCCT and the UKPDS (see Chapter 4) showed beyond a shadow of doubt that, for people with both type 1 and type 2 diabetes, the lower the A1c, the lower the risk of serious eye, kidney and nerve disease. The studies also showed that any improvement in A1c levels can potentially reduce complications.

When calibrated to DCCT standards, an A1c reading of approximately 6.0 is considered to be the upper limit of the "normal" range. For many years, the American Diabetes Association has recommended that people with diabetes set themselves a goal of keeping their A1c below 7.0.

Recently, however, the American College of Endocrinology came out with a new set of recommendations. Their most important suggestion? That you set yourself a target of keeping your A1c below 6.5. Ask your doctor what target A1c is right for you.

Your A1c levels correlate very closely to your average blood glucose level. Knowing this relationship can help you decide the kind of targets you need to set for your home blood sugar tests to hit the A1c goal you're going for. The following chart may help.

A1c	AVERAGE BLOOD GLUCOSE LEVEL	
4	NORMAL (NON-DIABETIC) LEVELS	60 mg/dL
5		90 mg/dL
6		120 mg/dL
7	ELEVATED LEVELS	150 mg/dL
8		180 mg/dL
9		210 mg/dL
10		240 mg/dL
11	SERIOUSLY ELEVATED LEVELS	270 mg/dL
12		300 mg/dL

The correlation between your average daily blood sugar reading and your A1c is why calculating the averages of your daily blood glucose readings is so important. If you're shooting for an A1c below 7, you need to keep your daily averages below 150 mg/dL. If you're shooting for an A1c of 6.5, you need to keep your daily averages below 135 mg/dL.

TESTING A1c AT HOME

In the past, the only way to check your A1c was at the doctor's office. Now, however, you can do it at home. A company called Metrika makes a disposable, pager-sized A1c monitor called the A1cNow that you can buy for \$24.99 at any Walgreens drugstore at the time of this writing. The A1cNow gives you your A1c reading in just eight minutes from a small drop of blood. No prescription is required.

KNOW YOUR A1c

A recent survey by the American Association of Diabetes Educators found that 75 percent of people with type 2 diabetes do not know their A1c number. That's shocking!!! What could be more important than knowing your A1c? It is the best available gauge of how well you're controlling your diabetes—and how much you are at risk for complications of the disease. If you haven't had your A1c tested in the past three months, run, don't walk, to your doctor's office or the nearest Walgreens to find out where you stand.

CHAPTER 7

WEIGHT CONTROL

The vast majority of people with type 2 diabetes are overweight. In fact, the fat in your body may be the *primary reason* you have diabetes. Fat is metabolically inactive and resistant to insulin. If you have the kind of diabetes primarily characterized by *insulin resistance*, your weight may be the cause of it. Weight loss, through diet and exercise, is one of the key goals of treatment for type 2 diabetes. Lose enough weight and you may be able to normalize your blood sugar levels without medication or insulin.

Losing weight isn't easy. If you've been overweight for many years, you may have convinced yourself that you CAN'T lose weight. But you CAN! Here's the absolute truth: when you take in more calories than you burn up in the course of a day, you gain weight. But when you take in *fewer* calories than you burn up, you *lose* weight. This is a rule of nature, as certain as the rising and setting of the sun. It doesn't just work for *some* people. It doesn't just work for thin people. It works for *all* people.

There are two ways to make this law of nature work for you. One is to cut down on the calories you eat and drink. The other is to increase the amount of exercise you do to increase the number of calories you burn. Better still, do both at the same time.

STEPS TO CONTROL YOUR WEIGHT

To control your weight, the first step is to find out how many calories you're eating right now. To do this, you'll need to arm yourself with a book that gives the calorie counts of foods. There are several good ones available. *The Complete Book of Food Counts*, by Corinne T. Netzer (Dell, \$7.50) is one of the most comprehensive. For packaged foods, you can get the calorie count by checking the label. (Just be sure to notice that the calories given are *per serving*. Eat the whole package and you may be eating several servings!)

Then, start a food diary. It doesn't have to be anything fancy—an ordinary notebook or pad of paper will do. In this diary, write down what you eat and drink—every bite and every sip—and note how many calories you're getting. Total them up at the end of the day. On average, men need about 2,700 calories a day to maintain a healthy weight. Women need about 2,000. You may find that you're getting a lot more than that!

Don't set yourself up for failure by going on an extremely low-calorie diet. For the first few days, it's best not to change the way you're eating at all. Just get in the habit of recording the calories you eat in your food diary.

After a few days, when you're comfortable keeping your food diary, start trying to reduce the number of calories you're getting gradually. Save 150 calories by drinking a bottle of water or a diet soda instead of a regular soda or fruit juice. Pass up your usual between-meals snack. Swear off French fries. Stop those midnight snacks. Make small changes and continue to keep your diary. Congratulate yourself

on even modest reductions in the number of calories you're taking in. Even cutting a small number of calories makes a big difference over time. It takes 3,500 calories to make a pound of fat. Cut back 500 calories per day—or burn 500 more with exercise—and at the end of the week you WILL have lost a pound. Or—if you're still eating too much—at least you will have *avoided* gaining a pound!

Don't let your subconscious mind sabotage what you're doing. Remind yourself, over and over, how important it is to your diabetes control and your overall health for you to lose weight—and never doubt that you CAN do it. Tell yourself that you are a strong, self-disciplined person. Visualize the athlete inside you who is waiting to get out. Celebrate every bit of progress you make and rededicate yourself to making even more.

Above all, remember that if you are gaining weight it is because you are eating more calories than you are burning up. Reverse that formula—burn more than you eat—and you absolutely, positively will lose weight.

CHAPTER 8

COUNTING CARBOHYDRATES

One of the most important skills anyone with diabetes can learn is “carbohydrate counting.” Carbohydrates are foods which break down into sugars during digestion.

Why do we count carbohydrates and not protein or fat? Because carbohydrates have *by far* the greatest short-term impact on your blood sugar. Fat plays only a minor role in short-term blood sugar levels. Protein takes several hours to show up as blood sugar, so it also plays a very minor role in short-term blood sugar control. Carbohydrates are the key. For anyone with diabetes, counting carbohydrates is essential.

Carbohydrates can be found in:

- > Grains—bread, pasta, cereal, and rice
- > Fruits
- > Vegetables
- > Alcoholic beverages
- > Cakes, cookies, and candies
- > Milk and yogurt (but not cheese)
- > Sugar, honey, corn syrup, and molasses

HOW TO COUNT CARBS

Carbohydrates are counted in *grams*. Grams are a unit of weight. Twenty-eight grams equal one ounce.

Some foods are almost entirely carbohydrate. Sugar and foods that are almost pure sugar—a lollipop or cotton candy—are easy to figure. Fifteen grams of table sugar is 15 grams of carbohydrate—simple as that.

But most foods are a mixture of nutrients. So how do you know how much of any given food is carbs? The easiest way is to read the label on the food package. The laws requiring that packaged foods be labeled for their nutritional content are a godsend for people with diabetes. An important note: as with calories, the carbs listed are not for the whole package, but just for one serving—and servings are often smaller than you would expect! Be sure to check the serving size. If you’re eating two servings, double the carb count.

Also: don’t be confused if the package lists carbohydrates and sugars separately. The sugars are *included* in the carbohydrate number. Ignore the sugar listed on the package label. Sugars are included in the carb count.

For foods that are not packaged, like fresh fruits and vegetables, you'll need a book that lists the carb content of foods. One good choice is *Dr. Atkins' New Carbohydrate Gram Counter* (Evans, \$4.95).

CARBOHYDRATES AND INSULIN

If you take insulin, carbohydrate counting is essential to knowing how much insulin to take. You count the carbohydrates in a meal you are about to eat, and then adjust the amount of short-acting insulin you inject or the “bolus” on your insulin pump to “balance out” those carbohydrates as exactly as you can. When you do that, you're essentially doing what a healthy pancreas does automatically—releasing just the right amount of insulin to cover the carbohydrates you eat.

How much insulin you need to balance out a given amount of carbohydrate is determined by your *carbohydrate-to-insulin* ratio. Your diabetes health-care team can help you determine your own individual carbohydrate to insulin ratio—and experience will help you refine it. Checking your blood sugar regularly and keeping careful records of your carbohydrate intake, blood sugar levels and insulin doses will soon show if the amount of insulin you're taking to cover your carbs is too much, too little—or just right.

If you have type 2 diabetes, counting and recording your carbohydrates is just as important for the same reason: because carbohydrates have the biggest effect on your blood sugars of all the foods you eat. Once you start counting carbs, it won't be long before you notice that eating certain foods causes your blood sugar to “spike,” and that you can help keep your blood sugar in range by avoiding them. You will also discover foods you enjoy that you can eat plentifully without adversely affecting your blood sugar.

THE GLYCEMIC INDEX

All carbohydrates break down into sugar once you eat them. But they don't all break down into sugar *at the same rate*. Scientists refer to carbohydrates that break down into sugar very rapidly as having a “high glycemic index.” Carbohydrates that break down into sugar more slowly have a “low glycemic index.”

It won't come as any surprise to learn that a teaspoon of table sugar has a fairly high “glycemic index.” But you might be surprised to know that a slice of white bread breaks down into sugar in your body *just as fast* as pure table sugar. And a baked potato breaks down into sugar even *faster!* So does instant white rice, a loaf of French bread, and most popular breakfast cereals.

On the other hand, some sweet fruits—highly recommended by dietitians because of their healthful vitamins and antioxidants—are relatively low on the glycemic index. For example, an apple breaks down into sugar only about half as fast as a slice of bread. So does a pear. So does a peach. And cherries are very low on the glycemic index—ten cherries break down into sugar in your body *three times more slowly* than a slice of bread.

Take time to learn something about the glycemic index. Try eating a food with a moderate or low glycemic index—like pasta—in place of a carbohydrate with a higher glycemic index, like bread. Then see what your blood sugar tests tell you. You may find that you can level out your blood sugars by replacing high glycemic index carbohydrates with those that are lower on the scale, rather than cutting out carbohydrates altogether.

CHAPTER 9

EXERCISE

Exercise has a major effect on your blood sugar level. Exercise acts like insulin: it burns up blood sugar and lowers your blood sugar. But that's just one reason why you must get at least 30 minutes of exercise—ideally, a combination of aerobic exercise and weight training—every day.

WHY IS EXERCISE SO IMPORTANT?

- 1) Exercise is essential for weight control. Extra good news: exercise increases your metabolic rate, and your metabolic rate tends to stay up even after you stop exercising. So you go on burning more calories than usual for hours after you've finished your workout! An important note: even if you exercise and never lose a pound, you're still benefiting. Studies show that overweight people who exercise, even if they don't shed pounds, have half the death rate of sedentary skinny people.
- 2) Exercise improves insulin sensitivity in your body. People who exercise regularly can reduce the amount of insulin or oral medication they take. (In many cases, type 2 diabetes can be controlled by diet and exercise alone.)
- 3) Aerobic exercise reduces your risk of *dozens* of serious health problems, including gallstones, heart and coronary artery disease—even cancer. A major study published in the September 10, 2003 *Journal of the American Medical Association* found that women aged 50 to 79 who walked briskly for 75 to 150 minutes per week had an 18 percent lower risk of breast cancer compared with inactive women. Numerous studies show that people who exercise have a dramatically lower risk of colon cancer than those who do not. Other studies suggest that exercise helps protect you from cancers of the ovary, prostate, and lung.
- 4) Working out with weights helps you build lean muscle mass, which is metabolically active and sensitive to insulin. Fat is inactive and less sensitive to insulin. That's why athletes with diabetes generally require lower doses of insulin—they have more muscle and less fat. Weight training also builds your strength and can help protect you from osteoporosis by increasing your bone mineral density.
- 5) Exercise is a powerful antidepressant. Recent studies show that exercise may be as effective as medication in fighting depression—and easier to stick with for the long run!
- 6) Exercise helps prevent insomnia. This has been shown by medical studies, but it's also common sense! If you sit around all day resting, you won't be tired enough to sleep through the night. Expend some energy, and you'll sleep better.
- 7) Exercise increases your overall sense of well-being. When you exercise, nerve cells in your brain release natural pain-killing chemicals called "endorphins." And endorphins are very good for you. Studies conducted over the last 20 years show that endorphins give you an increased sense of well-

being, a decrease in anxiety, increased ability to cope with stress, an increased tolerance for pain—and they strengthen your immune system!

8) Exercise improves your self-confidence and self-esteem. And—it makes you look better!

GETTING STARTED

If you're already exercising, keep it up! You're absolutely doing the right thing. If not, be sure to get a physical and your doctor's approval before you start any exercise program, especially if you are overweight, over 40, or have been sedentary for a while. Then, find something that you think will be fun to do—and get moving!

What *kind* of exercise you do is up to you. Walking is the standard recommendation, because it requires no special equipment and it can be done anywhere, anytime. But the right kind of exercise *for you* is whatever you like, enjoy, and will do on a consistent basis. Is there a sport you never tried before because you didn't have time? Let diabetes be your excuse to *make* time for it now! Exercise is *meant* to be fun. Find the kind of exercise that's fun for *you*, and your workout will become the highlight of your day!

Unless you can schedule a time in the day when you *absolutely will* exercise—then the best time to exercise is first thing in the morning. That way it can't be pre-empted by life's daily emergencies. It's already done!

AVOIDING HYPOGLYCEMIA

Exercise is incredibly good for you—but it is NOT entirely risk-free! Along with the pulled muscles and sprained ankles that everyone risks when they exercise, people with diabetes have one more hazard to worry about: hypoglycemia (low blood sugar). One of the key reasons to exercise is that it lowers your blood sugar. But that also means it increases your risk of hypoglycemia if you take insulin or oral diabetes medicine.

AVOIDING EXERCISE-INDUCED HYPOGLYCEMIA

There are two things you need to do to protect yourself from exercise-induced hypoglycemia.

First, knowing that exercise burns off blood sugar, reduce your dose of insulin or have a snack before you start your workout. Just as you adjust your dose of insulin to cover the carbohydrates in a meal you are about to eat, you need to adjust your pre-workout snack depending on how long or strenuous a workout you're planning. If you're going for a long hard run, obviously you'll need a more substantial snack than if you're just going for an easy 15-minute walk. Getting your snack just right may take a little bit of trial and error at first, but eventually you'll master it. As always, your best bet is to monitor your blood sugar frequently to make sure your levels aren't getting too high or too low. It makes sense to monitor your blood sugar right before you exercise. Most experts suggest that you do NOT exercise if your blood sugar is under 100 or over 300. (That doesn't mean you should *skip* your exercise session! Just take steps to bring your blood sugar within that range, and then go out and do it!) And remember that hypoglycemia can strike several hours *after* your workout, so keep monitoring your blood sugar periodically.

Second, carry some form of sugar with you in case you feel the early warning signs of hypo-

glycemia coming on. This is a critically important precaution whether you're exercising or not—an episode of hypoglycemia that hits when you're driving your car alone can be even more dangerous than one that happens while you're out walking.

Many athletes—with or without diabetes—carry a carbohydrate gel in a foil packet. There are several brands available at any sporting goods store. They're designed in such a way that you can actually eat their contents on the run. At the first signs of mild hypoglycemia (shaking, sweating, hunger, weakness, anxiousness), take some gel or any other source of carbohydrate or sugar.

Don't let diabetes stop you from exercising. Take reasonable precautions to protect yourself from hypoglycemia and you should be able to participate in just about any sport you choose.

WALK 10,000 STEPS TO BETTER HEALTH

What's the latest "buzz" in the exercise world? Using a pedometer to count your steps. It's inexpensive—an electronic pedometer only costs about \$25. And it's easy—you put the pedometer on in the morning and take it off just before you go to bed at night. Object of the game? To rack up 10,000 steps a day—the equivalent of about five miles—which many experts say will lead to better health. You get to count both the steps you take in the normal course of your day as well as any additional exercise you do to build up your totals.

Sedentary people average 2,000 to 3,000 steps a day. If you hit the recommended target of 10,000 steps, you're probably getting the 30 minutes of moderate activity public health guidelines recommend—and, of course, that's the whole point. The pedometer adds some pizzazz to the process, brings out the competitive spirit, and makes getting the exercise you need fun.

Here are some ideas on how to walk more steps during the course of the day:

1. Call that friend you were going to meet for coffee or lunch and suggest going for a walk together instead.
2. Use a cordless phone, and pace around while you're talking.
3. Take a "walk break" instead of a "coffee break."
4. If you have one of those cell phone plans with unlimited minutes on nights and weekends, take your phone to the park (or some other place where you won't be in danger from traffic), and walk while you talk to family and friends.
5. Take the stairs instead of the elevator.
6. Instead of hunting for the closest possible parking space, look for the one farthest away.
7. Go down every aisle in the grocery store every time you shop—even if you only need a few things.
8. Make your dog the happiest pet on the block! Take him for a walk two or three times a day instead of just once.
9. Get a treadmill and walk while you watch TV, talk on the phone, or listen to music.
10. Just get up and go for a walk!

Keep in mind that 10,000 steps isn't cast in stone. If you're only getting 2,000 steps a day now, and

you increase to 4,000 steps, that's a big improvement. On the other hand, if you're overweight and your goal is weight loss, 10,000 steps may not be enough to do it. You may have to do more. In a Japanese research project, people trying to lose weight were encouraged to do 12,000 to 15,000 steps a day.

DANCE THE POUNDS AWAY

One way to get your body moving and enjoy social interaction at the same time is to take up dancing. Dancing is awesome low-impact aerobic exercise. There are literally hundreds of different dances—ballroom dancing, swing, country, jazz, tap, ballet—and they all give you a great workout. But it won't even cross your mind that you're exercising as you glide across the dance floor.

If you don't have a dance partner, don't let that stop you! Country line dancing and other group dances are perfect for people without partners. They're great exercise and a ton of fun.

If you don't know how to dance, it's not too late to learn! There are classes available in everything from belly-dancing to the Cotton-eyed Joe. It doesn't matter what kind you choose—they all get your body moving, burn off calories, and help control your blood sugar.

THE FASTER YOU GO, THE MORE YOU BURN

How many calories you burn with exercise depends not only on how long you work out, but also on how *intensely*. Here's a chart that shows roughly how many calories you burn in an hour with various levels of exercise intensity:

SLOW WALKING (2 MPH)	216 CALORIES PER HOUR
FAST WALKING (4 MPH)	408 CALORIES PER HOUR
JOGGING (5 MPH)	762 CALORIES PER HOUR
RUNNING (8 MPH)	930 CALORIES PER HOUR

Please note: these are rough estimates for a person who weighs 185 pounds. If you weigh less, you'll burn fewer calories. If you weigh more, you'll burn more.

As this chart shows, it pays to pick up the pace! As you get fitter and fitter, you'll be able to walk, jog, or run faster and faster. And the faster you go, the more calories you burn.

TOO OLD TO PUMP IRON? THINK AGAIN!

It may seem strange to you, but weight training actually gets more important to your well-being as you get older. Most people gain about ten pounds every ten years after the age of 40. But they also lose five pounds of lean muscle—so they're actually gaining 15 pounds of fat!

Dieting can help get rid of the fat—but it won't do anything to restore lost muscle. So weight training is essential if you want to stay strong and maintain your lean muscle mass as you get older. Weight training is tremendously beneficial even for the oldest of the old. Without exercise, people weaken rapidly in old age (by 30 percent from age 80 to 90). Their bones also lose mineral mass, increasing the risk of

injury from even a minor fall. But research shows that even frail people in their eighties and nineties gain 40 percent to 80 percent in strength when put on a weight-lifting program. As a result, they typically spend less time in wheelchairs, walk faster and farther, and are less dependent on others to do things for them.

Of course, an 80-year-old is not going to lift the enormous weights that a 20-year-old can. But that's just fine! Studies show that resistance training with weights as light as a pound-and-a-half can boost strength and endurance in healthy elderly adults.

JOIN THE DIABETES EXERCISE AND SPORTS ASSOCIATION

As you continue to exercise longer and harder, you may find it helpful to join the Diabetes Exercise & Sports Association (DESA).

DESA was founded as the International Diabetic Athletes Association (IDAA) in 1985 by Paula Harper, a registered nurse with type 1 diabetes who was heavily involved in distance running and cycling. Even though she was a medical professional herself, she found it hard to find good information about exercise and diabetes management. After her fifth marathon in 1980, Paula had "I run on insulin" printed on the back of a t-shirt. She soon met other athletes with diabetes who wanted to share experiences, pass on information, and offer each other support.

In 2000, the board of the IDAA changed the name to Diabetes Exercise & Sports Association. Membership is open to everyone from "mall walkers" to Olympic athletes.

The primary benefit of joining DESA is the opportunity to share experiences with other athletes who have diabetes. It wasn't so long ago that people with diabetes were discouraged from participating in sports! And, even today, good information about the relationship between exercise and diabetes can be hard to come by. DESA is widely regarded as the best forum available today for athletes of all kinds to share and exchange their stories, tips, and information.

You can find out more at their Web site at www.diabetes-exercise.org.

CHAPTER 10

INSULIN

In August 1921, a Canadian surgeon named Frederick Banting and his assistant Charles Best successfully extracted material from a dog's pancreas, which they called "insulin." First they used this new substance to lower high blood sugars in diabetic dogs. Just six weeks after that, they tried it for the first time on a human subject—Leonard Thompson, a 14-year-old boy dying of diabetes. It saved his life, and the modern era of diabetes management began. Within two years of its discovery, insulin was available from Eli Lilly and Company in large enough quantities to treat most severe diabetics.

To people with diabetes, the discovery of insulin was more than just revolutionary. It was a medical miracle! What once was a death sentence became a manageable disease, and people with diabetes could look forward to living long, healthy, fulfilling lives!

Over the years, insulins have gotten better and better. The first crude insulin, made from beef pancreases, was purified and refined. Today we refer to it as "regular" insulin. Scientists added proteins, buffers and zinc to make more stable, longer-acting insulins including NPH (now also called "N"), Lente ("slow") and Ultralente insulin. Twenty years ago, medical science discovered ways to make synthetic human insulin from bacteria and yeast, and these "human" insulins have largely taken the place of the earlier insulins made from beef or pork. Eli Lilly's brand of human insulins is called Humulin. NovoNordisk's human insulins are called Novolin.

But even these synthetic "human" versions of the traditional insulins can cause problems. NPH and Lente peak—unpredictably—from roughly four to 12 hours after injection. As a result, morning doses may cause low blood sugar episodes (hypoglycemia) in the afternoon, and doses taken at dinnertime can cause dangerous low blood sugar episodes at night while you are sleeping.

Regular insulin is also difficult to use. It takes 30 to 60 minutes to start working, peaks from two-and-a-half to five hours later, and lingers in your system for up to eight hours. So, if you take it with meals, you're likely to have high blood sugars an hour or two after eating—and low blood sugars three to six hours after eating.

To solve these problems, Eli Lilly and Company recently came up with a new, very fast-acting insulin called Humalog that makes it much easier to maintain good blood sugar control. NovoNordisk has a similar fast-acting insulin called NovoLog. Both these new insulins begin working almost immediately—within 10 or 15 minutes. They peak from one to three hours after injection. And they are out of your system in roughly four hours.

Humalog and NovoLog are perfect for taking just before—or even during—a meal. They go to work right away to help you metabolize the carbohydrate you eat. They do their job and then disappear. So they are much less likely to cause low blood sugar problems hours later.

Another very important new insulin called Lantus (“glargine”) was recently introduced in the United States by a German company, Aventis Pharmaceuticals. Lantus is a very long-acting insulin that works for a full 24 hours and it is virtually “peakless.” It is perfect for providing the baseline or “basal” dose of insulin you need all day long. You take just one shot of Lantus a day to give you the low dose of insulin you need between meals and at night. And then you use Humalog or NovoLog with meals to give yourself the extra “bolus” dose of insulin you need to cover the carbohydrate you eat. A daily shot of Lantus, plus Humalog or NovoLog with each meal, can give you blood sugar control—and mealtime flexibility—similar to an insulin pump. Lantus has become the “basal” or long-acting insulin of choice for most people who are dependent on insulin.

Although these new insulins are more expensive than the traditional ones, they help most people achieve lower A1c levels with less hypoglycemia. If you’re not getting the kind of control over your diabetes you want, ask your doctor about these new products—or consider switching from multiple daily injections to an insulin pump.

WHAT YOU NEED TO KNOW ABOUT YOUR INSULIN

No matter what kind of insulin or combination of insulins you use, it is vital to know three things:

- > When it starts to work
- > When it peaks
- > How long it lasts

Knowing these three key characteristics of your insulins can help you use them most effectively to control your blood sugar—and prevent hypoglycemia. The Quick Reference Chart on the following pages lists all the most popular insulins and the characteristics of each.

ELI LILLY & COMPANY INSULIN ACTIVITY			
TYPE	STARTS TO WORK	PEAKS	LASTS
Humulin Regular	30–60 minutes	2–3 hours	4–6 hours
Humulin NPH	1–2 hours	4–10 hours	14–18 hours
Humulin Lente	1–3 hours	6–15 hours	16–20 hours
Humulin Ultralente	4–6 hours	Minimal peaking	24–36 hours
Humulin 70/30	15–30 minutes	2–3 hours & 8–12 hours	18–24 hours
Humalog	Less than 15 minutes	30–90 minutes	Less than 5 hours
Humalog Mix 75/25	15–30 minutes	30–90 minutes & 1–6½ hours	12 hours

AVENTIS PHARMACEUTICALS LANTUS INSULIN ACTIVITY			
TYPE	STARTS TO WORK	PEAKS	LASTS
Lantus	1½ hours	Virtually no peak	24 hours

NOVO NORDISK INSULIN ACTIVITY			
TYPE	STARTS TO WORK	PEAKS	LASTS
Novolin Regular	30 minutes	2½–5 hours	8 hours
Novolin NPH	1½ hours	4–12 hours	24 hours
Novolin Lente	2½ hours	7–15 hours	22 hours
Novolin 70/30	30 minutes	2–12 hours	24 hours
Velosulin BR	30 minutes	1–3 hours	8 hours
Novolog	10–20 minutes	40–50 minutes	3–5 hours

CHAPTER 11

INSULIN DELIVERY SYSTEMS

People who are newly diagnosed with diabetes often ask, “Why can’t I take my insulin in pill form?” The answer is that insulin is a protein, and if you took it as a pill it would be broken down during digestion before it could go to work. It works best when it is injected into the layer of fat that lies just below your skin.

If you control your diabetes with insulin, you can choose from three basic ways to get the insulin into your body.

1) Needle and syringe. The needle and syringe is still the commonest of the three insulin delivery systems. Today’s needles are much improved from years ago. They are sharper and finer, and some are coated with Teflon to make injections much less painful than they used to be.

Before you begin giving yourself insulin, be sure your diabetes educator shows you the correct technique. It’s not rocket science, but you do need to know what you’re doing! Recommended injection sites include the abdomen, outer upper arms, the thighs, the buttocks, and hip areas. Do not inject insulin in bony areas or near any of your joints—it needs to go into an area with a good fat layer below the skin.

Comprehensive information on anything to do with injections is available online at BDdiabetes.com. This site, put up by BD Healthcare, the world’s leading manufacturer of syringes and needles, includes a narrated, animated demonstration on how to give yourself an injection. Before the demonstration begins, you get to pick whether you want to be shown how to draw and inject one insulin, or how to mix, draw, and inject two insulins. You also get to choose the syringe you use: a 1 cc syringe, a 1/2 cc syringe, a 3/10 cc syringe with whole-unit scale markings, or a 3/10 cc syringe with half-unit scale markings. The demo you see is customized to your choices.

One question people frequently ask is: “Can I inject through my clothes?” The answer: although nobody recommends it, almost everybody does it.

2) Insulin pens. An insulin pen is a compact, portable device that serves exactly the same function as a needle and syringe, but is handier and more convenient to use. There are a wide variety of pens available. Both Eli Lilly and NovoNordisk make disposable insulin pens that come pre-loaded with their insulins. BD Healthcare, Disetronic, and Owen Mumford make reusable insulin pens.

One of the great advantages of insulin pens is that they are less “medical looking” than a typical needle and syringe. Pull out a vial of insulin and a syringe in a crowded restaurant and everyone will

wonder what the heck you're doing. An insulin pen is much less conspicuous. Many parents prefer to provide their children with an insulin pen for their lunchtime insulin dose at school.

One of the newest pens on the market is the InnoLet, from Novo Nordisk. The InnoLet is specifically designed to make accurate dosing easier, especially for people who may have problems with their eyesight. The large dosing dial, which looks almost exactly like a kitchen timer, has big numbers and clicks audibly at each dosing level. It's ugly, but it works. In a recent test, 84 percent of patients using InnoLet were able to accurately set and dispense an insulin dose intuitively without instruction versus 41 percent using a conventional insulin pen and just 32 percent using a vial and syringe.

3) Insulin pump. An insulin pump is a computer-controlled device—about the size and shape of a pager—that painlessly and accurately delivers insulin all day long through a tiny tube inserted just under the skin. An insulin pump is the best and most intensive way that currently exists to control diabetes. In theory, it is possible to achieve control over your blood sugar with multiple daily injections that is as tight as the control you achieve with a pump. But in the real world it doesn't often work that way! In the real world, almost everybody gets *dramatically* better control with the pump—and a lot more freedom to go with it.

Here's why. Everybody, with or without diabetes, needs insulin for two reasons: a background amount of insulin for normal functions of the body without food, and a burst of insulin, on demand, when food is eaten. People without diabetes can count on their pancreas to produce just the right amount of insulin for both purposes. The pump is not automatic—you have to tell it what to do. But, with experience, you can program it to do exactly what a healthy pancreas does.

In multiple daily injection therapy, it is not always clear how much insulin is being used for background use and how much is being used for food. With the insulin pump, the two are clearly separate. The pump allows you to set a “basal” rate of delivery to cover your background needs. And then you can give yourself a “bolus,” or a little extra, on demand, when you eat.

When you exercise, you can reduce the basal rate so your blood sugar doesn't go too low. When you are sick or have an infection, you can increase the basal rate so your blood sugar doesn't go too high. And you can increase or decrease your “bolus.” You can give yourself a very small boost of insulin if you're just having an apple for a snack. Or a larger one if you're sitting down to Thanksgiving dinner.

An insulin pump uses only short-acting insulin, so you don't have to eat according to a rigid schedule. You can skip a meal entirely if you want, because there's no long-acting or intermediate insulin in your body dictating that you must eat.

The pump is not entirely pain-free. Every two or three days you have to change the location of the “infusion set,” and that feels about like an injection. But with multiple daily injections you have to take *12 shots* every three days! Compared to that, changing the infusion set is hardly worth mentioning.

Today's pumps are very easy to use. If you can get money out of an ATM, you can learn to use a pump. And they are very safe.

There's a misconception among many people with diabetes that you only “go on the pump” if your diabetes is really out of control. It's true that many people who absolutely cannot control their diabetes with injections are able to get control with the pump. But most people use the pump simply because they want

to have the best control over their diabetes that they possibly can.

Another misconception is that the pump is strictly for people with type 1 diabetes. In fact, it's just as useful for type 2s who need insulin to control their diabetes.

Should you be using a pump yourself? It's certainly something you should at least consider. More than half of all doctors and certified diabetes educators who use insulin wear the pump. Most people who try the pump immediately become raving fans. Very few are willing to give it up once they've tried it.

CHAPTER 12

ORAL MEDICATIONS FOR TYPE 2 DIABETES

People with type 1 diabetes don't have a choice: they must take insulin because their pancreas no longer makes it. Being dependent on external sources of insulin is part of the definition of type 1 diabetes.

People with type 2 diabetes may have some other choices. In type 2 diabetes, the pancreas still makes insulin. It just may not make enough, or your body may have become resistant to it.

The first line of defense against type 2 diabetes is diet and exercise. But if diet and exercise alone do not bring your blood sugar down to acceptable levels, your doctor may prescribe one or more oral medications. There are a tremendous number of different medications to choose from today, and new ones come out all the time.

Which drug—or combination of drugs—is right for you? The truth is, not even your doctor knows for sure. Not all of the drugs work for everybody. And even if a drug works for you to begin with, it may not work as well—or not at all—later on. So there's a little bit of trial and error involved. This 28-day program will absolutely show you whether your oral medications are working for you the way they should, and whether the dosage is appropriate.

An important note: even though you were diagnosed with type 2 diabetes rather than type 1, you still may need insulin to control your diabetes. Many people with type 2 diabetes do. Most people who manage their diabetes successfully with oral medications at first need insulin later on. If this is the case with you, don't fight it! You may not like the idea of giving yourself a shot. Nobody does. But after the first week or two you won't give it a thought. The complications of diabetes are *extremely* serious! So if you must take insulin to control your type 2 diabetes, count yourself blessed that today's excellent insulins exist to keep you healthy.

CHAPTER 13

AVOIDING HYPOGLYCEMIA

One of the most dangerous side-effects of insulin—and also of some oral medications for type 2 diabetes—is *hypoglycemia*. “Hypoglycemia” simply means low blood sugar.

Treating diabetes with insulin is a constant juggling act. Sometimes you eat too much food and don’t take enough insulin, and then you get *hyperglycemia*—high blood sugar. *Hyperglycemia* happens when you make the opposite mistake and take too much insulin without enough food. Hypoglycemia can also be brought on by exercise, because exercise, like insulin, burns up sugar. (See Chapter 9.)

SYMPTOMS

The symptoms of mild hypoglycemia include nervousness, shakiness, grouchiness, sweating, dizziness, yawning, weakness, blurred vision, headache, and hunger. *Never ignore these symptoms!* Hypoglycemia is always a *potential medical emergency*, and you have to take care of it *quickly*. The cure is to eat or drink any kind of fast-acting carbohydrate: orange juice, a regular sugared soft drink (not sugar-free), candy, glucose tablets—anything you can get your hands on. The standard recommendation is to take 15 grams of carbohydrate. And then, if you don’t feel better in 15 minutes, take another 15 grams of carbohydrate. Lifesaver candies—available all over the world—are as good a source of emergency sugar as any. One Lifesaver has about 2 grams of carbohydrates, so you’ll need to gobble seven or eight pieces to get your 15 grams of carbohydrate. Never go *anywhere* without a roll of Lifesavers or some other source of instant sugar in your pocket or purse!

WHY YOU MUST ACT QUICKLY

Left untreated, hypoglycemia can get progressively worse, leaving you less and less able to help yourself. Without a quick dose of fast-acting sugar, your hypoglycemia may progress to what is called “moderate hypoglycemia”—although those who have experienced it say there’s nothing “moderate” about it! Symptoms of moderate hypoglycemia include confusion, poor coordination, inability to cooperate, and slurred speech. In the first stages of moderate hypoglycemia you may still be able to save yourself by drinking some juice or eating some candy. But as it advances you may have to rely on someone else to squirt a tube of Insta-glucose or the equivalent between your gum and cheek. It’s very important that your family and friends understand diabetes, know the symptoms of moderate hypoglycemia, and have some Insta-glucose gel on hand so they can do something about it. After the Insta-glucose takes effect, you should have a substantial snack, like some crackers with cheese.

SEVERE HYPOGLYCEMIA

The most serious kind of hypoglycemia is “severe hypoglycemia,” which involves unconsciousness or seizures. If severe hypoglycemia strikes, you are powerless to help yourself. The treatment for severe hypoglycemia is a shot of glucagon or intravenous glucose. Just as you should never leave home without a roll of Lifesavers in your pocket, it is vital that you keep a glucagon emergency kit handy, wherever you may be. And make sure somebody there knows what to do with it!

Unfortunately, many people with diabetes are embarrassed to ask their family and friends to take the responsibility of learning to give a glucagon injection. And that can lead to disaster in an emergency situation. Somebody who has never given a shot in their life is not likely to be able to do it in an emergency! Experts recommend that you not only explain to a potential rescuer how to use the kit—also let them practice by giving you one of your regular insulin shots. Again—obviously—as soon as the glucagon takes effect and a person wakes up, they should eat something as soon as possible.

Hypoglycemia is especially dangerous for those who live alone, as many older people do. For that reason, many doctors set a higher blood sugar “target range” for their older patients.

Whether you live alone or not, in the end it’s up to you to protect yourself from hypoglycemia. Your best defense is to monitor your blood sugar frequently, carefully balance your insulin with your food intake, always keep some fast-acting sugar at hand—and act immediately when you feel the symptoms of hypoglycemia coming on!

WEAR YOUR MEDICAL I.D. BRACELET

In case of emergency, it’s very important that the people who respond know you have diabetes. Here’s just one scenario to illustrate just how important this is. The symptoms of low blood sugar resemble those of drunkenness. If a police officer thinks you’re drunk and throws you in jail to “sleep it off”—when what you really need is some fast-acting carbohydrate—it could lead to a life-threatening situation. So wear your medical I.D. bracelet! It could save your life.

One of the most popular bracelets is the one provided by a company called MedicAlert. A MedicAlert bracelet is engraved with a toll-free number as well as your own membership number. In case of emergency, the responder can call the toll-free number, 24-hours-a-day, and access your medical information. MedicAlert will also notify your family. Full information is available online at medicalert.org.

CHAPTER 14

KETOACIDOSIS

Hypoglycemia is *low* blood sugar. Ketoacidosis is the opposite problem: it occurs when your blood sugar is *too high*.

Diabetic ketoacidosis is a very serious but treatable complication of diabetes that happens when there is not enough insulin in your body. It is not to be taken lightly: Before the discovery of insulin, it was fatal 100 percent of the time. With modern management methods, death occurs in about 2 percent of episodes. The good news: it's not a common occurrence. It happens, on average, twice in 100 patient years of diabetes, meaning that if you have diabetes for 50 years, you run the risk, on average, of having one episode of ketoacidosis during that time. It is most common in people under 19, and it almost always affects those with type 1 diabetes. It is extremely rare for those with type 2.

In about 15 percent of cases, ketoacidosis is caused by newly diagnosed, previously unknown diabetes. In other words, someone who has just become diabetic has had their insulin levels fall so far before they are diagnosed that they wind up in the hospital with ketoacidosis. In another 25 percent of cases, ketoacidosis results from a missed insulin dose or doses. But the most frequent cause of ketoacidosis is an infection or illness. Any infection has the potential to make your blood sugar levels skyrocket, leading to the risk of ketoacidosis. Urinary tract infections are the biggest culprit.

How do you defend yourself from ketoacidosis? Keep tight control over your blood sugar levels, and test frequently. Whenever you feel sick, even from a common cold, it is very important to test your blood sugar more often than you usually do. Ketoacidosis normally develops slowly—unless you're vomiting. Anytime vomiting continues for more than two hours, if you have type 1 diabetes, you should contact your doctor.

Ketoacidosis is characterized by high blood sugar levels (usually over 300 mg/dL), dehydration, and the presence of ketones (acids) in your blood. You can test for ketones using a urine strip. Many experts recommend that you check for ketones whenever your blood sugar is more than 240 mg/dL.

The first symptoms of ketoacidosis are:

- > Extreme thirst
- > Frequent urination
- > High blood sugar levels
- > High levels of ketones in your urine

Ketoacidosis

As ketoacidosis progresses, you may experience:

- > Constant fatigue
- > Dry or flushed skin
- > Nausea or vomiting
- > Difficulty breathing
- > A fruity odor on your breath
- > Confusion

Ketoacidosis is very dangerous. If you have *any* of these symptoms, call your doctor or go to the nearest emergency room.

CHAPTER 15

DIABETES AND YOUR HEART

When most people think about diabetes complications, the thing that scares them most is blindness. And that fear is based in fact: diabetes is the number one cause of blindness in adults in America. But the most common—and deadliest—complication of diabetes is *heart disease*. Just having diabetes puts you at two to four times greater risk of cardiovascular disease or stroke. There are two keys to protecting yourself from heart disease.

The first is: *stop smoking*.

Cigarette smoke contains thousands of chemicals that hurt your body, including carbon monoxide, nicotine, and tar. Smoking irritates and damages the throat, lungs, heart, circulatory system, and digestive tract. Tobacco is linked to at least seven different kinds of cancer. And it is the leading cause of death from heart attacks and strokes—a risk you can't afford because you are *already* at increased risk of cardiovascular disease!

Now here's the good news. It's easier to stop smoking now than it ever has been before.

In the past few years, a whole new class of nicotine-replacement products has been approved by the FDA to help smokers quit. Some of them are available over-the-counter, without a prescription, like Nicorette nicotine gum. Others, like Nicotrol nasal spray, require a doctor's prescription. Whether you choose to use a gum, a nasal spray, an inhaler or a patch, the principle is the same. These products give you a dose of nicotine to replace the nicotine you're used to getting from cigarettes.

And they work! In clinical trials, each of these nicotine replacement therapies proved effective in helping people quit.

ZYBAN

And there's an even more effective aid. Two years ago, the FDA approved the first-ever pill designed to help you quit smoking. The brand name of the product is Zyban. The generic name is bupropion SR (sustained release). It's the exact same prescription drug that is found in Wellbutrin SR, a proven antidepressive.

To stop smoking using Zyban, you begin taking the drug a week before your quit date. Then you continue taking it for seven to 12 weeks after you stop smoking. In clinical trials, an impressive 49 percent of smokers who tried it were successful after a month. And because Zyban contains no nicotine, you can use it along with nicotine replacement therapy. People who took Zyban and used nicotine gum to curb momentary cravings were even more successful in quitting.

If you've tried to stop before and failed—take heart. Almost everyone who successfully quits smoking has tried unsuccessfully before. You can do it, too! Stopping smoking is never *easy*—but these

new products make it easier than it has ever been before.

So set a date—and make it soon. Talk with your doctor. Choose the therapy you think will work for you. On your quit date, throw away all your cigarettes, lighters, and ashtrays. Join a support group. Plan alternate rituals—if you’ve always smoked after meals, for example, start taking a brisk five- or ten-minute walk instead.

And make it work! It’s one of the most important things you can do for yourself.

GET YOUR CHOLESTEROL CHECKED

The second thing you should do to protect your heart, if you haven’t done it recently, is get a complete cholesterol check-up (also called a “lipid panel”). The ordinary cholesterol screening, which evaluates total cholesterol and high-density lipoproteins (HDL—the “good” cholesterol), is not enough. You need to get the kind of test that requires a 12-hour fast and checks your total cholesterol, LDLs (“bad cholesterol”), HDLs, and triglycerides—another fatty substance in the blood shown to contribute to heart disease. The LDLs are what your doctor will be looking at, above all. These low-density lipoproteins damage your heart’s coronary arteries by causing a build-up of calcified plaque inside them.

If the test results show that your LDL cholesterol is below 100 mg/dL, that’s good. If it is greater than 100 mg/dL, the current guidelines recommend that your doctor start you on “therapeutic lifestyle changes”—meaning diet and exercise. Between 100 mg/dL and 130 mg/dL, adding drug therapy is considered optional. But if your LDL level is more than 130 mg/dL—and you have diabetes—adding drug therapy to lower your LDL cholesterol is recommended.

If your doctor decides to put you on cholesterol-lowering medications, he or she is likely to prescribe a category of drugs called “statins.” After years of prescribing these drugs sparingly and analyzing the results, the experts now approve them wholeheartedly and recommend prescribing them aggressively—especially for people with diabetes.

Statins really do save lives. In a five-year clinical study among people with high cholesterol and heart disease, those who took one of the most popular cholesterol-lowering drugs, Zocor, had 42 percent fewer deaths from heart disease.

AN ASPIRIN A DAY

You’ve probably heard that an aspirin a day—either an 81 mg “baby” aspirin or a standard 325 mg tablet—is frequently prescribed to people who have had heart attacks. Now guidelines suggest that an aspirin a day may be a good idea for some people who have *not* had a heart attack, but are at high risk because of other factors—including diabetes.

But aspirin therapy is not risk-free. Aspirin has rare but very dangerous side effects including the possibility of gastrointestinal bleeding and hemorrhagic strokes (uncontrolled bleeding in the brain.)

So the trick is to balance the benefit with the risk. The more risk factors you have for a heart attack, the more sense it makes to take aspirin. For people with little risk of a heart attack, there’s no sense in taking chances with aspirin’s side effects.

People with diabetes are two to four times as likely as people without to die from the complications of cardiovascular disease. So aspirin therapy is something you should at least discuss with your doctor.

CHAPTER 16

SEX

It would be great if you could leave diabetes behind when you close the bedroom door. But, unfortunately, you can't. Diabetes can intrude on your sexual life in small ways and in large ways. The small ways include such things as having to remember that sex is exercise, and as such has an effect on your blood sugar. It may not seem romantic, but it's wise to check your blood sugar before sex just as you do before exercise. If your blood sugar level is below 100, you would be wise to have a snack to bring it up. Otherwise, you run the risk of becoming hypoglycemic.

Another nuisance is what to do with your insulin pump during sex. Actually, this is an easy one. Almost all pumps have a "quick connect" feature that allows you to take them off when you shower, swim, or have sex. Taking the pump off for a short time rarely causes any problems, as long as you remember to put it back on again. Even if your infusion set pulls completely out in a fit of passion, it rarely causes a disaster. Just choose another insertion point and replace it when you're done.

Diabetes intrudes on your sex life in a more serious way when it causes sexual dysfunction. In one study of men with type 2 diabetes, 34 percent reported frequent erectile problems, and another 24 percent reported occasional problems. Diabetes can cause these problems in two ways: first, as a result of damage to the blood vessels, restricting the flow of blood required to create an erection; and second, as a result of damage to the nerves, resulting in a lessening of sensation.

Furthermore, some medications taken for type 2 diabetes and related problems like high blood pressure or high cholesterol can be the cause of sexual dysfunction. Drinking too much and smoking can also cause the problem.

Although male sexual problems related to diabetes get most of the coverage in the press, women frequently have diabetes-related sexual dysfunction, too. Women with diabetes sometimes have problems with vaginal lubrication, and they may experience a lessening of sexual response due to nerve damage.

The first line of defense against diabetes-related sexual dysfunction, as with all diabetes complications, is to maintain tight control over your blood sugar levels. Stopping smoking, getting regular exercise, and losing weight may also help.

If problems persist despite your best efforts, be sure to talk to your doctor. In years past, sexual dysfunction was a taboo topic. But no more! The huge success of Viagra—which has been specifically proven to work on men with erectile dysfunction caused by type 2 diabetes—has focused the attention of medical researchers on this problem. Now there are two additional pharmaceutical products on the market, Levitra and Cialis, both of which were also tested specifically on men with diabetes. And there are other very effective therapies that your doctor may suggest.

So, whether you are a man or a woman, don't hesitate to bring up the subject with your doctor. Don't suffer in silence just because it makes you uncomfortable to bring the subject up! And don't wait for your doctor to take the lead. Speak up! Be matter-of-fact. There are treatments available for both men and women that may help you enjoy a more satisfying sex life.

CHAPTER 17

TRAVELING WITH DIABETES

If you're planning a trip by air in the near future, you need to be aware of how airline security rules put in place by the FAA after September 11, 2001 may affect you. As of this writing, you are only allowed to take one carry-on bag on board, along with a pocketbook or briefcase. Items that you may *not* carry on board a plane: knives; any other cutting instruments, such as straight razors, box cutters, metal scissors, ice picks, metal nail files, or corkscrews; baseball and softball bats; golf clubs; pool cues; ski poles; and hockey sticks. Umbrellas and walking canes are also allowed on the plane with you, as well as syringes, *with proof of medical need*.

Here are some tips for traveling with diabetes under the current airline restrictions:

1. To satisfy the requirement of “proof of medical need,” get a letter from your doctor, on office letterhead, stating that you are being treated for diabetes mellitus and that you must have your medications and the means to deliver them—along with your testing equipment, supplies, emergency glucose, and other food—in your possession at all times. If you're carrying insulin, be sure to keep it in its original box with the original label, even if some has already been used out of the vial. The same for oral medications: keeping them in the prescription bottle you got from the pharmacy can save explanations.
2. Always carry your diabetes prescriptions—and prescriptions for any other medications you require—with you. This also helps to establish medical need when your bags are searched, and could be essential if you need refills while you are out-of-town.
3. Pack all your medications, including your insulin and glucose tablets and substantial snacks, in your carry-on bag—*never in your checked baggage*. Pack with the assumption that your checked baggage will be lost, your flight will take three times longer than scheduled, and that *nothing* will be available to eat on the plane. (The airlines have eliminated food service on most flights, as a cost-cutting measure.)
4. Call your airline in advance and get the *exact measurements* they allow for carry-on bags. And don't push your luck. The last thing you want is to have the airline refuse your carry-on because it is too large.
5. Bring a government-issued photo ID, and get to the airport at least an hour before your departure for domestic flights, earlier for international.

Ozzie Roberts, who travels all over the world, says that the one word of explanation for your diabetes supplies that is understood all over is “Medical.” Don't hesitate to use it!

One of the keys to living a positive life with diabetes is: don't let it keep you from doing what you enjoy. If you've always loved traveling—or you've always dreamed of traveling but put it off—pack your bags. With a little planning and preparation, there's nowhere you can't go.

CHAPTER 18

PREVENTING DIABETES

It may seem strange to have a chapter in a book written for people who already have diabetes on how to prevent it. But there's a good reason to include it. Family history is a factor in type 2 diabetes. So your brothers and sisters and your children are at risk for type 2 diabetes if you have it. If your husband or wife has shared your diet and lifestyle for many years, he or she may be at risk also. You are in a position to let people you love know they are at risk—and help them diminish that risk.

The exception to what I just said is type 1 diabetes. No one is certain what triggers it in the first place, so unfortunately there's no way to stop it.

Type 2 *can* be prevented. On August 8, 2001, the results of a landmark study called the Diabetes Prevention Program (DPP) were released by the National Institute of Diabetes and Digestive and Kidney Diseases.

Participants in the study were people at high risk for developing type 2 diabetes. The DPP participants were overweight and had impaired glucose tolerance—their blood glucose levels were higher than normal but they were not yet diabetic.

Two different approaches were tested to see if they could keep these at-risk people from developing diabetes. One group tried diet and exercise. The other group was given Glucophage (metformin).

Both approaches worked. The diet and exercise group reduced their risk of developing diabetes by a whopping 58 percent! The Glucophage group also reduced their risk of developing diabetes, by 31 percent.

What did the people in the diet and exercise group have to do to get such great results? Did they have to starve themselves until they were as skinny as supermodels? Not at all! On average, this group did 30 minutes of physical activity per day—mostly walking. They lowered the amount of fat in their diet and lost just 5 to 7 percent of their body weight—typically about 15 pounds.

This study is particularly encouraging because it proved that diet and exercise work for everybody—African-Americans, Latinos, American Indians, Asian-Americans, and Pacific Islanders, as well as Caucasians. All these groups were included in the trial, and all were successful.

It was also encouraging to see that the diet and exercise approach worked *better* among adults older than 60 than any other age group. This is very important because American adults over 60 have the highest rate—20 percent—of type 2 diabetes.

So don't let the people you love put themselves at risk for a disease they can avoid. The same things that are recommended above all for people with diabetes—weight control and exercise—have been proven to effectively prevent it.

PART TWO:

**28 DAYS TO
DIABETES CONTROL!**

USING THE 28-DAY PROGRAM TO CONTROL YOUR DIABETES

Now we get down to business!

Having read the first part of this book, you've learned the basics about diabetes. Now you're ready for step two: learning to control *your* diabetes.

The key to mastering your diabetes in the next 28 days is to complete the journal pages in this section. The journal includes spaces for every factor that affects blood sugar levels. Filling out these pages will take all the mystery out of why your blood sugar is sometimes high, and sometimes low. In the course of this program you will learn *exactly* how food, exercise, and (if you use them) medication or insulin raise or lower the levels of sugar in your blood. Keeping this journal—and analyzing it—will teach you everything you need to know to get your diabetes under control—and keep it under control for the rest of your life.

HOW THE JOURNAL WORKS

There are four categories of information on the journal pages.

- 1) **Food.** Because food has a huge impact on your blood sugar levels as well as your weight, for the next 28 days, you are going to record everything you eat and drink—every bite of food and every sip of beverage. There are spaces on the journal pages to write down what you have for breakfast, lunch, and dinner, as well as your snacks.

In addition, you're going to count and record the *calories* and the *carbs* in each meal. If you need a refresher on counting calories, please refer back to Chapter 7. If you need a reminder on how to count carbs, please refer to Chapter 8.

- 2) **Exercise.** Daily exercise is vital both for your diabetes control and for your general health. For the next 28 days you're going to be exercising every day and making a note of it. There are two blanks for exercise in case you choose to do two exercise sessions in a day—an aerobic exercise and a weight-lifting routine, for example.

Be sure to enter *when* you exercised under “time of day,” so you can relate that to the times of your blood sugar tests and see how exercise affects your blood sugars. Under “type of exercise,” indicate what you did: walking, for example. Under “duration,” write the number of minutes you worked out. Under “intensity,” indicate how hard you exercised: easy, average, or hard.

3) Medications or Insulin. If you take oral medications or insulin to help control your diabetes, obviously it is important to make a note of them. There are six blanks in the journal pages to let you record when, what, and how much you took through the day.

4) Blood Sugar Tests. It is your blood sugar test that makes everything else make sense. There's no way to exaggerate how important frequent blood sugar testing is. If diabetes is the question, blood sugar tests are the answer! It is your blood sugar tests that will tell you *everything*.

There are eight blanks in the journal pages for blood sugar tests. For the first seven days, you should test eight times a day, no matter what type of diabetes you have. For the last 21 days, testing four times a day should be sufficient. If you have been in the habit of testing only once or twice a day, that may seem like an awful lot. But keep in mind that I'm not asking you to test eight times a day for the rest of your life. Only for the next seven days. There is no substitute.

Here is when you should test during the first week of your program:

1. First thing in the morning, before you have anything to eat.
2. Two hours after breakfast
3. Just before lunch
4. Two hours after lunch
5. Before exercise
6. Just before dinner
7. Two hours after dinner
8. Before going to bed

There's nothing to stop you from continuing to test eight times a day throughout the program if you're comfortable with it, and the journal pages include eight blanks for test results all the way to the end. But it is not absolutely necessary. For the last 21 days, testing four times a day should be enough. A good strategy is to stick with the schedule above, but skip every other test. One day, test on the even numbers shown above, and test on the odd numbers the following day. That way you're covering all eight test times every two days.

Be sure to total up your blood sugar tests at the end of each day and divide by the number of tests you did to get your daily average.

The journal pages also include a place to record your body weight, because weight loss is a key goal of therapy for the vast majority of people with diabetes. Weigh yourself at the same time every day. I recommend doing it in the morning right after you get up, before you have anything to eat or drink.

On the next page is a sample journal page, filled out.

DAY 1

DATE: Sept. 1

BREAKFAST

	CALORIES	CARBS
Toast with Butter	200	18
2 Fried Eggs	150	1
1 cup O.J.	120	31
1 cup 2% Milk	130	13
BREAKFAST TOTALS:	600	63

LUNCH

	CALORIES	CARBS
Grilled Chicken	390	0
Green Salad	17	3
Italian Dressing	120	3
LUNCH TOTALS:	527	6

DINNER

	CALORIES	CARBS
6 ounces Salmon	351	0
1 cup Zucchini	28	7
1 cup Rice	340	74
Dinner Roll	110	18
DINNER TOTALS:	829	99

SNACKS

	CALORIES	CARBS
Orange	65	16
Cup of Yogurt	130	15
SNACK TOTALS:	195	31

DAILY TOTAL:

2,151 199

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
4:00 p.m.	Walk	20 min.	Medium

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
8 a.m.	Glucophage	500 mg
Noon	Glucophage	500 mg
8 p.m.	Glucophage	500 mg

BLOOD SUGAR TESTS

TIME OF DAY	READING
7 a.m.	98
11 a.m.	120
Noon	118
2 p.m.	132
4 p.m.	115
6 p.m.	99
8 p.m.	114
9:30	108

TODAY'S AVERAGE BLOOD SUGAR READING: 113

BODY WEIGHT: 220

Once you have Day 1 of your journal completed, you'll be in a position to make changes that will help you to get better control the following day. With eight daily blood sugar tests to guide you, the effects of your diet, your exercise, and your medications or insulin will be obvious. Every day, you'll look back at what happened before. Identify problem areas. Decide what to change, make the change, and see what happens. It won't take long before the cause and effect of blood sugar control becomes second nature to you. You'll see what makes your blood sugar go up, and what brings it down. Step-by-step and day-by-day, analyzing your journal pages will teach you exactly what you need to know to control your diabetes.

An important note: this 28-day program will *not* work unless you are on a medical regimen that makes it possible for you to control your blood sugars. Earlier I said that your diabetes care is 5 percent up to your doctor, and 95 percent up to you. And that's absolutely true. But the 5 percent the doctor does is very important! You can't write your own prescriptions. If you're not on the right medicine, or you're not taking the right insulins, you may not be able to get control over your blood sugar levels no matter how hard you try.

You're going to know soon enough. Follow this program faithfully for just four or five days, and take a look at your daily blood sugar averages. Make sure you're taking your medicine or insulin *just the way your doctor ordered*. If you're 20 or 30 mg/dL higher than you want to be on your blood sugar daily averages, that's all right. You can easily bring that down by increasing your exercise program, by dropping some carbohydrates from your diet, or by slightly increasing your dosage of insulin or medication. That's what this program is all about—learning to balance your food, exercise, and medication so that your average daily blood sugars fall right where you want them.

But if your blood sugars are *way* out of line—if they are *twice* as high as you want them to be—you need to get with your doctor as soon as possible. Take this book with you to show that you're serious about bringing your diabetes under control. Show your doctor your first few journal pages. It could be that the medicine you're taking is not working for you. You may need to switch medicines, change your dosage, add another medicine, or start taking insulin. If you're taking insulin already, your insulin-to-carbohydrate ratio may be way off. Or you may need to take different kinds of insulin, switch from one or two shots a day to multiple injections, or try an insulin pump.

Doctors aren't psychic—they don't know what's going on with your diabetes unless you tell them. Lots of patients have high blood sugars because they don't follow doctors' orders. But that's not the case with you! You're taking your medicine or insulin, getting daily exercise, and you're recording all the factors that affect your blood sugar. You're serious enough about controlling your diabetes to test your blood sugar eight times a day. You deserve to be on a medical regimen that *works!*

If you're doing everything your doctor told you to do, and your first few days' blood sugars are not even in the ballpark, raise the red flag right away! Get on a medical regimen that gives you a chance for success.

DAY 1

Your goal on Day 1 is simple: just fill out Day 1 in the journal. If you've never counted calories or carbs before, that will be challenge enough. Your first day counting calories and carbs is the hardest, because you have to look *everything* up. Believe me, it gets much easier. If you're like most people, there are certain things you eat almost every day. When you're filling out your journal for Day 2, there will be a lot of things you can just pick up from your journal entries on Day 1. By the end of your first week, you'll only have to look things up occasionally. You'll have most of your favorites memorized.

Please take this process seriously, and do it right. Make sure you *measure* what you eat and drink. That means you're going to have to get out a measuring cup to find out how many cups are in the glass of juice you drink every morning. Remember, you only have to do this today. Tomorrow when you fill that same glass, you'll already know how much it holds.

Don't try to cut back on what you eat or drink today. That can come later. The goal for today is simply to *record* what you eat. Be sure to total up the number of calories and carbs for each meal, and for the day.

Of course I want you to fill out the *whole* journal, not just the food diary. I want you to get some exercise and record what you did. Under "Medications or Insulin Taken" be sure to note when, what, and how much you took through the day. Do your eight blood sugar tests, and average them at the end of the day.

You can do this! Take a deep breath, roll up your sleeves, and go to work.

DAY 1

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 2

Welcome to Day 2. Here's where the fun begins! You now have something you've never had before: a complete record of everything you did yesterday that could affect your blood sugar levels—along with blood sugar tests that show the results. You have what a scientist would call *data*. Yes, it's only one day. But it's a start!

Early in the day, sit down and look at the data you entered yesterday. Start out with your blood sugar tests. You know what your target range is. How often did you hit it? What was your daily average? Was it below 150, which would put you within the ADA's suggested target of keeping your A1c below 7? Or if you're shooting for the more aggressive target of 6.5 that the American College of Endocrinology suggests, was it below 135?

If not, what can you do to bring it down? You might start with your highest reading of the day. How can you bring that one reading down? Have fewer carbs in the previous meal? Get some exercise before that reading? Pick one thing to adjust to bring down your highest reading from yesterday and do that one thing today.

This is the process you'll be using for the next 27 days: *analyze and adapt*. Analyze what happened yesterday. And adapt your behavior to get a better result today. Now that you have a record of what you ate, what you did, what medicine or insulin you took, and what the results were on your blood sugar tests, you're in a position to analyze what's going on, make simple changes, record the results, and analyze again.

If you had a huge bowl of spaghetti for dinner and your bedtime and morning sugars were sky-high, you don't need an expert to tell you that a huge bowl of pasta is not a good dinner for someone with diabetes! It's just too many carbohydrates. Maybe a dinner of chicken or fish with a salad and green vegetables might be better—with a single piece of bread or a small portion of spaghetti on the side. Or maybe you just need to adjust the insulin you took to cover that meal.

If weight control is one of the goals you want to accomplish on this program, today is the day to start cutting just a few calories out of your diet. Remember, on average, men need about 2,700 calories a day. Women need about 2,000. What was your total yesterday?

One of the easiest places to start is with the calories you drink. For example, a 12-ounce can of Coke contains 150 calories. Some people go through a six-pack a day. That's 900 calories! Orange juice is certainly a healthy drink, full of vitamin C. But an eight-ounce glass of orange juice has 120 calories. Alcoholic beverages are packed full of calories, too. A regular 12-ounce beer has around 150 calories, and a light beer has 100 to 120. A four-ounce glass of wine is 100 calories. So you can wind up getting too many calories in the beverages you consume—even if you're disciplined about what you eat.

Sweet drinks are packed with carbohydrates, too. The calories in most sweet beverages are pure

Day 2

carbs. If you want to cut some of the carbs out of your diet to level out your blood sugars, drinks are a painless place to start. Many people enjoy the diet version of their favorite soft drink just as much as the high-calorie kind. Another option is good, old-fashioned water! Pick up a cold, refreshing bottle of water instead of a 12-ounce can of Coke, and you've saved 150 calories and 40 grams of carbohydrate. Or try the new flavored waters that have minimal calories and carbs.

DAY 2

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 3

It's Day 3, and now you have two days' records to look back over.

The first thing you need to look at is the one thing you changed yesterday to bring down your highest blood sugar from Day 1. Did it work? If so, great! If not, try to figure out why it didn't.

Now, for the first time, you have enough written history of all the factors that affect your blood sugars to start to look for *patterns*. Analyzing patterns and adapting your behavior is something you will do throughout this program. Of course, looking for patterns will be more productive when you have several days' worth of information to analyze. But at least you can *start*.

Are you having high blood sugars consistently at the same time of day? After a certain meal? Take a look at what you've been eating at that meal. How do the carbs compare to the other meals of the day? What can you change to bring those "pattern highs" down?

DAY 3

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 4

Day 4. Now we're getting somewhere!

It would be great if there were a one-size-fits-all way to control diabetes. But there isn't. Every single person with diabetes is unique. What works for you might not work for your neighbor. A food that drives your blood sugars way up may not have the same effect on someone else. You have to figure out your *own* way to control your diabetes.

And you're well on you're way to doing it! With every day that goes by, you have more data, more information, more recorded history that you can go over, analyze, and learn from.

So look back on what happened in your first three days. Analyze and adapt. Decide what you're going to change today to get your blood sugars under better control. Above all: keep exercising, keep testing, and keep filling out your journal!

DAY 4

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 5

It's Day 5—and keeping your journal should be getting a little easier. You're starting to get the hang of counting calories and carbohydrates. You've found that there are certain foods you eat almost every day, and you know their calories and carbs by heart.

How's the exercise program going? Many people with diabetes diagnosed in their 40s, 50s, and 60s have been inactive for years. And it's hard to change habits of long standing. So if you're having a hard time getting your exercise program started, you're not alone.

But don't give up! This is one area you *have* to change! The human body *must have* exercise to remain healthy. Years ago, doctors routinely recommended “bed rest” for a variety of ailments. Now doctors realize that bed rest is the *worst thing you can do*. Today, people who have quadruple bypass surgery are encouraged to get up and walk down the hospital halls within a couple days of surgery. Why? It's either get moving—or die. That's how important exercise is.

If you have been excusing yourself from exercise because of a bad knee, arthritis, or a weak back, stop! It's time to adopt a new attitude. There is a “work-around” for everything. Exercise is so important that doctors and physical therapists have devised ways for *everyone* to get in a good workout. If you have arthritis or a bad knee or a weak back, you can still exercise. One option is water aerobics, where you work out in a swimming pool. The water supports most of your body weight, making it possible for almost anybody to exercise. There are also exercise programs that can be done while you're seated in a chair. People whose hands are too arthritic to grip even a light weight can exercise by strapping weights around their wrists with velcro. All these programs are available to you if you look into them.

So if you've been putting off the exercise part of this program, today is the day to get with it. No excuses. Find something you can do and get moving!

DAY 5

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 6

Day 6: You're doing great!

This program isn't easy—I know it. I'm asking you to do a lot of new things all at once. I'm asking you to get in the habit of counting both the carbohydrates you eat and the calories you consume each day. I'm asking you to test your blood sugar *eight times a day*. (Although that's only for two more days!) I'm asking you to keep this daily journal, which you may never have done before. I'm asking you to get exercise every day, which may be new to you. And I'm asking you to go back over your journal pages every day, actively looking for changes you can make in your diet, exercise, and medications or insulin to bring your blood sugar readings down as close as possible to normal levels.

That's not just a lot—that's an *awful* lot. If you've done it all every day so far, you should stop and congratulate yourself. You've done something exceptional, and you've shown awesome self-discipline. You're fantastic! You're a star! You're a champion—keep it up!

If you haven't done everything perfectly, but you've done *most* of it—frankly, that's fantastic too. Congratulations! Even if you've missed a couple days' exercise, or haven't always tested eight times a day, as long as you're filling out *most* of your journal sheets, you've got more data on how to control your diabetes *already* than most people ever compile in their lifetime! But don't settle for less than your best. Your goal is to fill in every blank, and I want you to hang in there and fill out as much as you possibly can. Don't start over and promise you'll do it perfectly next time. Just keep going. Keep testing, keep exercising, and keep filling out your journal to the best of your ability.

The more you do, of course, the more you'll learn and the better control you'll achieve. But if you do *most* of what I ask, you'll still learn a *lot*. So don't beat yourself up if you missed a test, or even missed a day. Instead, look for the positive. Look for the tests you *did*, and see what they tell you. Congratulate yourself on every bit of exercise you recorded, and build on your successes. Even if you aren't perfect, you are precious and irreplaceable. This program is important, and you're worth the effort. I know it's hard, but I also know you're *strong*. **YOU CAN DO IT!**

DAY 6

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 7

Congratulations! You've made it to an important milestone. Day 7 is the end of your first full week on this program. This is also the last day you need to test your blood sugar eight times.

You'll notice that there's an extra journal page today. Don't panic—it's for your first set of weekly averages. It's very simple. All you need to do is add up your daily total calories this evening and divide by seven. Add up your daily total carbs and divide by seven. And add up each day's average blood sugar level and divide by seven to get your average blood sugar reading for the week.

You're doing great! Keep up the good work.

DAY 7

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

WEEK 1 AVERAGES

AVERAGE DAILY BLOOD SUGAR READING

AVERAGE DAILY TOTAL CALORIES

AVERAGE DAILY TOTAL CARBOHYDRATES

TOTAL MINUTES OF EXERCISE

AVERAGE BODY WEIGHT

DAY 8

Take a little time this morning to sit down and look at the data you accumulated during this first seven days of this program. You've accomplished a lot! You know more about how your body reacts to food, exercise, and your insulin or medication than most people with diabetes. Hopefully you've made adjustments that are bringing 80 to 90 percent of your blood sugar readings within your target range. Don't even *try* to get to 100 percent. It can't be done. Even people who do a *fantastic* job of controlling their diabetes get the occasional reading that is out of range. And everybody has a bad day from time to time, when nothing seems to go right. Take those exceptions in stride. They won't hurt you. The key is to keep your *averages* in line—particularly your weekly averages.

If the vast majority of your tests do not fall within your target range, don't be afraid to get professional advice. Talk to your doctor or your certified diabetes educator. By all means, show them your first week's records. Because of their experience in dealing with hundreds of patients with diabetes, they may be able to spot things you didn't notice. The data you've collected will be *tremendously* helpful to them!

Look back at your first full week and analyze it. With a full week behind you, certain patterns are sure to stand out. As you've been doing all along, decide what you should do to correct anything that looks like a problem. Make the change, keep on testing, and see what happens. It's an ongoing science experiment, and you are the one who will benefit from the results.

Starting today, you no longer need to test eight times a day, although eight spaces are still provided for test results in case you want to continue. But at this point, four times a day should be enough.

Now set your goal for the coming week. If your weekly average was a little bit higher than you were shooting for, make up your mind to get it within your target range this week. If you were within your target range but just barely, try to get right in the middle this time. If you were right on the bull's-eye, congratulations! Keep it there!

DAY 8

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

DAILY TOTAL:

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAY 9

Now that you're starting to get your blood sugars under control, it's time to focus on something else that is critically important to managing your diabetes: your weight.

Losing weight is important for so many reasons that it would take an entire book to list them. In terms of your diabetes, it is important because losing weight lowers your insulin resistance. If you have type 2 diabetes, your body's natural insulin works better the less you weigh. If you have type 1, the insulin you inject works better the less you weigh. Losing weight also tends to lower your cholesterol levels and blood pressure. It reduces your risk of heart attack or stroke. And it reduces your risk of cancer.

So how is it going so far? Many people find that when they start counting calories and keeping a detailed food diary, their weight automatically starts going down. It makes sense, doesn't it? If you know a sugary soft drink is going to add 150 calories to your daily calorie count, you may go for a bottle of water instead. All it takes is a few smart decisions like that in the course of the day to make a difference. Exercise also aids in weight loss, so it wouldn't be surprising if you've lost two or three pounds already.

Please do *not* go on a strict diet at this point—or any kind of a diet at all. Why? Because a “diet” is something people go on for a while, then go off. And they almost always gain all the weight they lost back when they go off of it.

So don't starve yourself. Don't go on a very low calorie diet. But *do* keep your food diary every day with scrupulous honesty. Be *aware* of what and how much you're eating, and try to make better choices during the day. Try to make the kinds of changes you can live with for the rest of your life.

Remember, it takes about 2,000 calories for the average woman to maintain a healthy weight, and about 2,700 for the average man. If you've been eating a lot more than that, just getting down to normal is an accomplishment. Congratulate yourself! If you want to lose weight steadily, a reasonable goal might be to cut 500 calories out of your total each day. For a woman, that might make your daily target 1,500 calories a day. For a man it would be 2,200 calories. That's not a starvation diet by any means, but it should enable you to lose a pound a week. Or a couple of pounds, if you're exercising hard. The beauty of counting calories is that *what* you eat is up to you. You know the target you're aiming for. Within that limit, your food choices are unlimited.

If you're looking for a food to cut out of your diet completely, here's a suggestion: potato chips. Look at the nutrition label on a typical bag of chips and you'll see that a serving contains 150 calories, 10 grams of fat, and 15 grams of carbohydrate. That's bad enough, but the real problem is that a serving is only one ounce—about 20 chips. There are *12 servings* in the standard 12-ounce bag you buy at the grocery store. Open a bag of chips when you sit down to watch TV, and it's all too easy to finish off the bag in a couple of hours. That's 1,800 calories, 120 grams of fat, and 180 grams of carbohydrate! Wash it down

with a couple cans of Coke and you've just taken in more calories, more fat, and more carbohydrates than you need *all day!*

Can't bring yourself to give up potato chips completely? Here are a couple of suggestions:

- > If you know that you have the willpower, count out a single serving of chips—and eat them from a bowl, not the bag. When the bag is sitting next to you on the couch, it's just too easy to keep reaching in there for more.
- > If you don't think you can limit yourself to a single serving that way, buy your chips in individual snack-size bags. Yes, they're more expensive that way, but it may be worth it if they keep you from eating too many.
- > Have a healthy substitute instead! If you really like salty, crunchy snacks, liberally season a handful of baby carrots and munch on them instead.

DAY 9

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

DAILY TOTAL:

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAY 10

Welcome to Day 10! Congratulations. You're doing great!

This is a great day to increase the amount of exercise you're getting. If you were totally sedentary when you began this program, you may still be working your way up to 30 minutes of exercise a day. Good for you! Keep going! The human body is incredibly responsive, and many people who can't walk a mile when they first try find they can walk two or three miles within a matter of weeks.

If you're already doing 30 minutes a day, that's awesome—but remember, 30 minutes a day is the recommended *minimum*. For optimal health, experts recommend an hour of exercise a day.

There are two ways to increase your exercise time: one is just to do more of whatever it is you're doing already. The other is to add a second exercise period of an entirely different kind. (That's why there are two blanks in your journal for exercise.) Athletes call this “cross training.”

If you've been walking for 30 minutes a day so far, you might want to add a session of light weight-lifting and calisthenics—push-ups, crunches, and so on—later in the day. The ideal exercise program includes aerobic exercise (like walking, jogging, or running) to strengthen your heart and lungs, and resistance training to strengthen your muscles—especially the muscles of your upper body, which don't get much of a workout from walking.

Exercise doesn't have to be drudgery. Trying to keep a hula hoop going is a fantastic, fun workout. Is there a sport you never tried before because you didn't have time? Let diabetes be your excuse to *make* time for it now! Always wanted to learn judo, or take a class in yoga? Always wondered what Tai Chi is all about? Or Tae Bo? What's stopping you?

Exercise is *meant* to be fun. Find the kind of exercise that's fun for you, and your workout will become the highlight of your day.

DAY 10

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 11

Today I want you to make a special effort to focus on spotting *patterns* in your journal.

At the point you have ten days of really good data to look at. If you've got a highlighter pen handy, use it. Go over the past ten days and highlight the single highest and the single lowest blood sugar reading for each day. Is there a pattern? Are most of your highs falling after a specific meal, for example?

If so, take a look at what you normally eat at that meal. Is there something that you're eating or drinking at that meal that's causing the high readings? If you eat three or four different foods at that meal, try eliminating or replacing one of those foods one day, another the next, and so on. Test two hours after the first bite of the meal, and you'll soon find the problem food. Something you really like? Don't worry! In many cases, you don't have to *eliminate* the food from your diet—just eat a smaller quantity of it.

Conduct little experiments like this. Count on your blood glucose monitor to tell you what's going on. Analyze and adapt: these are the keys to diabetes control.

DAY 11

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 12

Going into your twelfth day, I hope you're beginning to realize this program is not *that* hard to do. Counting carbs and calories only takes a few minutes when you get the hang of it and learn the numbers for most of your favorite foods. Exercising, once you get over the initial shock, is fun and feels good! I don't know if anybody thinks testing their blood sugar is actually *fun*, but after all the testing you've done so far, it should be no big deal.

By now controlling your diabetes should be much less confusing. You're beginning to see the *cause and effect* from the entries on each of your journal pages. You know what it means to "master" your diabetes: to balance your food, exercise, medication, and insulin to control your blood sugar. You're well on your way!

DAY 12

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 13

It's lucky day 13! You now have a dozen days behind you.

Sometime today, take a moment for a little celebration. Look back at your first couple of days, and remember how hard it was to look up everything you ate, to measure everything, to get this whole program started. Think about how *little* you knew about diabetes control then—and how much you know now.

Your knowledge of diabetes and diabetes control has come a long way. Your blood sugar readings should be falling in line much more consistently. It's very likely that your weight is dropping, too.

So take a moment to pat yourself on the back. You're doing great!

DAY 13

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 14

Congratulations! You've made it to the end of the second week of your program. You're halfway home. This evening, do your weekly averages and compare them to your averages for Week 1. Take a moment to celebrate every improvement and positive change you've made since you started this program!

By this evening you should have 14 days of exercise behind you. You are well on your way to establishing daily exercise as a habit that will last for the rest of your life. Nothing could be more important!

Your blood sugar levels should by now be falling fairly consistently in your target range. Notice that you're feeling better, have more energy, are having fewer mood swings, and you're thinking more clearly? Those are the benefits of good blood sugar control—along with a *dramatic* reduction in your risk of the complications of diabetes.

If things aren't going that well, don't quit. Everyone progresses at a different rate, and tomorrow is another day. The benefits of this program are *long-term*. So don't worry if you have a couple of blank pages in your journal, if you haven't done every single blood test, or if you've missed a couple of days of exercise. Go at it again tomorrow, and give it your best. One solid week of recording everything you eat, testing regularly, getting your exercise, and analyzing the results will prove to you how much better you can feel—and will teach you more about controlling your diabetes than you can learn any other way. Now is the time to set your goals for next week. Congratulate yourself on what you've done so far. Renew your commitment to get your diabetes under control. Onward!

DAY 14

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

WEEK 2 AVERAGES

AVERAGE DAILY BLOOD SUGAR READING

AVERAGE DAILY TOTAL CALORIES

AVERAGE DAILY TOTAL CARBOHYDRATES

TOTAL MINUTES OF EXERCISE

AVERAGE BODY WEIGHT

DAY 15

By this stage of the program you should be saying to yourself: “I can do this!”

And you’re right—you can! Remember back when you were first diagnosed, gaining control over your diabetes seemed overwhelming? Now your diabetes routines are starting to be integrated into your lifestyle. The time is near when you find that diabetes control only takes a few minutes out of your day. You may spend more time in the shower than you spend on tasks related to controlling your blood sugar.

So let yourself think ahead. What were your goals and dreams before you were diagnosed? Time to dust them off and really think about what you want to do. Assuming that you keep your blood sugar under control, diabetes does *not* need to limit you.

Decide what you want. And then *do it*.

DAY 15

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 16

If one of your goals is to lose weight, this is the perfect day to see how you're doing. You're far enough into the program now that you should have lost a couple of pounds—maybe even more.

If you haven't, stop and analyze why. Look at the entries on your journal sheets for exercise and total daily calories. Remember, when you burn more calories than you consume, you lose weight. When you consume more than you burn, you gain.

I recently did an interview with my friend Will Cross, who illustrated this simple fact very dramatically. Will just got back from a two-month trek to the South Pole. During the trek, Will ate a whopping 5,000 calories a day—sometimes more. And 50 percent of it was fat! (The reason for so much fat was because fat is very calorie dense, and he was trying to pack in as many calories as possible. He actually melted a pound of butter in his coffee every morning.)

Did he gain weight? No—he *lost* 30 pounds. Because he was walking for ten hours a day in sub-freezing cold, pulling a 150-pound sled, he was burning more calories than he could possibly consume.

If you're not losing weight, it's because you're *not* burning more calories than you consume. Your options are to burn more (increase your exercise), or consume less (eat fewer total daily calories.) Or do a little of both—increase your exercise and decrease your calories at the same time.

DAY 16

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 17

One goal of this 28-day program is to get you in the habit of getting *at least* 30 minutes of exercise every single day. (More is even better!)

If you're doing your 30 minutes, congratulations! If not, don't beat yourself up about it—but don't give up on it either. Exercise is *tremendously* important for your diabetes control as well as your overall physical and psychological well-being. If you've found something you like to do but you're missing more days than you hit, really consider doing it first thing in the morning. In the rush of the day, it's too easy for something “more important” to come up. When it's already done, it can't be pre-empted.

If you haven't found a kind of exercise you like to do, put some real effort into thinking of something. I would be very sorry if you finished this program without getting into the habit of getting exercise, consistently, for at least 30 minutes a day.

Throughout this book I've told you that your blood sugar is controlled by what you eat, how much you exercise, and by the medicine or insulin you take. And that's true. But there are “wild cards” that make it almost impossible to keep blood sugar in the target range 100 percent of the time. These wild cards include stress, illness, and hormones. Sometimes in the morning you may have a “rebound high,” which is actually your body's emergency response to a low that occurred during the night. Furthermore, you will occasionally have an out-of-range reading that just can't be explained by *anything*. Just understand that these things are a normal part of life.

You can't let an occasional unexpected result throw you off track. Keep on doing the right things to keep your blood sugar as close to normal as you can. Your control will never be *perfect*—but it will be close enough to let you live a long, rewarding life, free of diabetes complications.

DAY 17

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 18

It's Day 18, and I want you to try something a little different today. Leaf through your completed journal pages without looking for anything in particular. You've got a lot to look at now—so just glance through the pages. Appreciate how much you've done and how much you've learned.

As you page through your journal, something may jump out at you that you never noticed before—something that may explain why one day was so much better than all the others, for example. If it does, great! You've noticed something new that may help you as you strive to achieve better control.

If nothing jumps off the page, that's okay, too. Just enjoy the satisfaction of looking back at your completed pages, and take pride in what you've accomplished in this short period of time.

DAY 18

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 19

It's Day 19. Congratulations! You're doing a fantastic job.

Today, think about increasing your exercise program just a little. The human body is incredibly responsive. If you started exercising regularly on Day 1, your body has almost certainly adapted to the exercise and accepted it as part of your daily routine. So now is a good time to go a little faster, a little farther, or a little longer. You know that half-an-hour of exercise a day is the *minimum* for good health. Long-term, your goal should be to do an hour. Please, don't jump from 30 minutes to 60 minutes all at once. Take it gradually. If you've been walking for 30 minutes every day for the last 18 days, you should be able to go to 40 or possibly even 45 minutes without too much trouble. Stay at that level for another three or four weeks. Then, when 45 minutes no longer feels like a challenge, increase to an hour.

Here's another suggestion. You've started exercising regularly—and that's fantastic. By the end of this 28-day program, your regular daily exercise will be such a part of your routine that you wouldn't even *think* about giving it up. Ever. But to ensure that, pick a goal to help keep you motivated. Go on the Web or visit your local running-shoe store, and find a 5K (3.1 mile) run/walk scheduled in your area three or four months from now. Sign up for it. Be there.

Even if you were totally sedentary when you started this program, you can almost certainly be ready to walk a 5K in three or four months if you train for it seriously. Close your eyes and picture yourself striding (maybe even jogging or running!) across the finish line, proudly picking up your T-shirt. Having a specific goal makes all the difference in staying motivated, and training for a 5K race rather than just going out for your daily walk is a super goal. Wake up the athlete inside you. Call on your own competitive spirit. Even if you don't win the race, go out there and show 'em what you can do—and have fun while you're ensuring your health.

DAY 19

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 20

It's Day 20, and you've gone from simply learning about controlling your blood sugar levels to mastering it.

Now it's time for a little advanced-placement exercise. Today, before each of your four (or more) blood sugar tests, try *predicting* the result. Think about it. You've been testing regularly for the past 19 days. You've diligently analyzed all the factors that affect your blood sugar: diet, exercise, and medication or insulin. So before you do your first blood test in the morning, think back to what you ate last night, how much exercise you did yesterday, and make your prediction. Then go ahead and test and see how close you are.

If you're within 20 or 30 points of what you expected, that's right on the money. Within 40 or 50 points is darned close. I'm willing to bet your predictions are in the ballpark more often than not.

Being able to predict your blood sugar is a *big step*. Remember when you did your first blood sugar test and had *no idea* what the result would be—and probably very little idea of what the number meant anyway? You've come a long way. Now you know exactly what that number means, what it should be, and what factors determine it. Learning to make a reasonable prediction of your blood sugar level means you're well on your way to achieving diabetes control.

DAY 20

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 21

Congratulations!

This is the last day of the third week of your program. A major milestone! You're three-quarters of the way through. Just one more week to go.

The reason for the length of this program is that 28 days is the amount of time it takes to make a new habit *permanent*. Exercise every day for 28 days, and you're not likely to stop suddenly on day 29. Keep your blood sugars under tight control for 28 days and you're not likely to let them go when this program is done. Get in the habit of counting every calorie you eat, and you'll do it subconsciously even when this program is finished and you're no longer writing down every bite of food you eat and every beverage you consume during the course of the day.

You have made positive changes and integrated healthy habits into your lifestyle. These changes will make you healthier for the rest of your life, and keep your risk of diabetes complications to the absolute minimum. Keep it up for one more week, and these positive changes will become *permanent*.

DAY 21

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

WEEK 3 AVERAGES

AVERAGE DAILY BLOOD SUGAR READING

AVERAGE DAILY TOTAL CALORIES

AVERAGE DAILY TOTAL CARBOHYDRATES

TOTAL MINUTES OF EXERCISE

AVERAGE BODY WEIGHT

DAY 22

You're in the homestretch.

This is a week for fine-tuning and for improving any area where you haven't made as much progress as you'd like. Look back at your journal pages for the first three weeks and your first three weekly averages. Make a note of how you've done, and set your goals for this week.

If you haven't been as faithful to the program as you'd like, you still have this week to finish strong. I know I sound like a broken record, but I'm going to say it again: if you record everything you eat, your exercise, your medications, and the results of four tests a day for one solid week, you'll gain insights into controlling your diabetes that will benefit you for a lifetime.

If you've had trouble sticking with this program, don't be afraid to ask for help. Your friends and family can help you manage your diabetes if you let them. Teach them what you know about diabetes. If you're going to diabetes education classes, take family members along. Let them read this book. Just knowing that people close to you understand this disease and what you are going through to control it is very encouraging.

Family members need to understand the changes you're making in your diet and lifestyle to level out your blood sugars and control your weight. Explain this program to them, and let them help you analyze your data. They may see something you haven't noticed!

DAY 22

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 23

The end is in sight!

This is the day to pick up the phone and make an appointment with your diabetes doctor—whether you’ve made great strides in your diabetes control or not. Try to get an appointment within a week or two of finishing this program.

If you’ve made good progress and your blood sugar readings are starting to fall within range consistently, your doctor needs to know. You may be able to reduce the amount of medication or insulin you take. In any case, it’s important to check in with your physician when anything about your diabetes changes—even when the change is for the better.

If you are disappointed with your results so far, then it’s doubly important to see your doctor. If you’re doing everything right to the best of your ability, then the problem may be with your medical regimen. You may do better with different oral medications or a different insulin regimen. Take your journal with you to your appointment—your doctor will be absolutely overjoyed to have so much information to work with. Doctors aren’t psychic. They can’t gaze into your eyes and figure out what’s wrong. But with 28 days of detailed data to look at, your doctor doesn’t need a crystal ball.

DAY 23

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 24

Day 24—*charging* down the homestretch!

My sincere hope is that by now this is starting to seem like the *easiest thing in the world*. Controlling your diabetes doesn't have to consume you. It is destined to be just a small part of your life. The rest is a blank canvas, just as it was before you were diagnosed. You can make it into any kind of masterpiece you want.

Today I want you to concentrate on making this process intrude on your real life *as little as possible*. Don't get me wrong; I want you to fill out your journal page, get your exercise, and do your tests. I want you to count and record your carbs and your calories, just like always.

But you're an *expert* at all that by now. A blood sugar test, which may have taken you five minutes full of apprehension when you started this program, now probably takes you 30 seconds or less, including packing and unpacking your monitor. Counting the carbs in a meal? At first you had to measure, look things up, use all your fingers and toes to make the calculations. But now? You could teach a class on carbohydrate counting! You know the carb content of dozens of foods by heart. Bask in your success. It's well deserved.

So, for today, concentrate on efficiency. Control your diabetes—but in the least possible amount of time. Focus on the things that matter in your life. If family or friends have been helping you through this program, take the time to thank them. If you've been neglecting your dog or your house or your job while you worked on controlling your diabetes, now is a good time to start catching up. From this day on, diabetes will only be a small part of your life.

DAY 24

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 25

It's Day 25. You have shown *fantastic* self-discipline and commitment to make it this far, and you should be proud of yourself.

Please make this the day you really commit yourself to continuing with this program after the 28 days are done. I'll warn you—already your subconscious mind is thinking, “Whew! Only three more days after today, and then we can *relax!*”

Don't let it take charge. Look in the mirror and say to yourself, “I like the path I'm on. Every day I am going farther and farther down the road to good health. And I'm going to keep right on going down that road when this program is done.”

DAY 25

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 26

This is a perfect day to go back through your journal pages and look for patterns again.

You now have 25 days' worth of high-quality data to look at. So get out your highlighter and go over every page since you did it last, marking the highs and lows for each day.

With just two days left in the program, is it too late to make adjustments? No! You'll be making adjustments to keep your diabetes in control for the rest of your life. With the knowledge and skills you have now, you'll be able to spot potential problems early, make adjustments quickly, and never let your diabetes get out of control.

DAY 26

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 27

It's the second-to-last day of your program, and you've done a fantastic job! I can't begin to say how proud I am of what you've done.

What I want you to think about today is *balance*. Diabetes control is all about balance. You balance out the carbs you eat with exercise, medication, and/or insulin to keep your blood sugar where you need it to be. You balance out the calories you consume with the amount of exercise you do to normalize your weight.

Life is about balance, too. For people with diabetes, the key is striking the right balance between managing the disease and living their lives. Yes, you *have* to control your diabetes. But you *don't* have to let your diabetes control you. This program has taught you the skills you need to live a life in balance, with your diabetes in control and the confidence to take on any challenge that life presents you.

Never let your diabetes hold you back from doing what you want to do. You may not want to compete in the Olympic Games, walk to the South Pole, or fly a small plane around the world. But you *could*. People with diabetes have done all those things—and more. Here is a short list of extraordinarily accomplished people with diabetes to prove it. The next time you're feeling down, open to this page and let these people inspire you.

Gary Hall, Jr. Already an Olympic champion swimmer with two gold and two silver medals in the summer games in Atlanta, Gary was training for the 2000 Games in Sydney when he was diagnosed with type 1 diabetes. He was told twice in one day by doctors that he would never swim again at the world-class level. But he proved them wrong by winning two more golds, a silver, and a bronze in Sydney. He's currently training for the 2004 Games in Athens, Greece, where he plans to win some more.

Nicole Johnson. Miss America, 1999.

Douglas Cairns. On February 19, 2003—after five months, 63 flights, 26,306 nautical miles, and stops in 22 countries—Douglas completed the first-ever flight around the world in a small plane by a pilot with diabetes. Until 1996, people with insulin-dependent diabetes could not get a pilot's license. But now, recognizing the advances that have been made in diabetes management, the U.S. Federal Aviation Administration will issue a private pilot's license to a person with diabetes. Douglas did the portions of the trip over the United States solo, including the longest single leg, from Hawaii to San Francisco, which is considered a domestic U.S. flight. In countries where people with diabetes are not allowed to fly by them-

selves, he was accompanied by a “safety pilot” to make the flight legal, although Douglas did all the flying himself.

Kris Freeman. Kris recently won the 30K cross-country classic in the Under-23 World Championships, and is considered a medal favorite in cross-country skiing events at the upcoming Winter Olympics in 2006.

Doug Burns and Kim Seeley. Champion bodybuilders.

Alison Scheel and Stephen Manley. Ironman-length triathletes.

Bill King and Dr. Michael Heile. Marathon runners.

Michael Hunter. Competitive aerobatic pilot.

Will Cross. One of the great adventurers of all time, Will has walked to both the North and South Poles. Next stop? Everest!

John Dennis. Sailed single-handed over 11,000 miles from New York to England, and England to South Africa.

David Panofsky. Led a climbing expedition to 22,834-foot Cerro Aconcagua in Argentina that put seven insulin-dependent climbers on the summit of the highest mountain in the western hemisphere.

Diabetes didn't stop these people—and it won't stop you from doing *anything you want to do!*

DAY 27

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAILY TOTAL: _____

DAY 28

Well, my friend, here it is: Day 28. The final day of the program—and the first day of the rest of your new and improved life with diabetes. CONGRATULATIONS!

The skills you've learned in the past 28 days are yours to use for the rest of your life. If your blood sugars ever again get off track, you know what to do. Record what you eat, your exercise, and—if you use them—your medications or insulin. Analyze and adapt. You have the skills. You are *in control*.

So finish out the day in style! Fill out the last day's journal in your best handwriting. Do your totals for the week. Take time to compare your blood sugars from Week 1 with Week 4. Compare how fit you are to your physical condition a month ago. Compare your weight from Day 1 to today. Contrast what you know about managing diabetes now to what you knew 28 days ago.

Congratulate yourself on your accomplishments and celebrate your success! You were faced with a problem, and you confronted it head-on. You got this book, you followed the program, and now you have the problem *under control*. You are a champion!

Don't stop doing the things you've been doing for the past four weeks. Keep exercising on a daily basis. Test your blood sugar regularly. Balance your food, exercise, and insulin or medication to keep your blood sugars in your target range. Count your calories and keep your weight trending downward until you hit your goal.

I wish you the very best!

DAY 28

DATE: _____

BREAKFAST

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
BREAKFAST TOTALS:	_____	_____

EXERCISE

TIME OF DAY	TYPE	DURATION	INTENSITY
_____	_____	_____	_____
_____	_____	_____	_____

LUNCH

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
LUNCH TOTALS:	_____	_____

MEDICATION OR INSULIN TAKEN

TIME OF DAY	TYPE	AMOUNT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DINNER

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
DINNER TOTALS:	_____	_____

BLOOD SUGAR TESTS

TIME OF DAY	READING
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

SNACKS

	CALORIES	CARBS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
SNACK TOTALS:	_____	_____

TODAY'S AVERAGE BLOOD SUGAR READING: _____

BODY WEIGHT: _____

DAILY TOTAL: _____

WEEK 4 AVERAGES

AVERAGE DAILY BLOOD SUGAR READING

AVERAGE DAILY TOTAL CALORIES

AVERAGE DAILY TOTAL CARBOHYDRATES

TOTAL MINUTES OF EXERCISE

AVERAGE BODY WEIGHT

PART THREE:

RESOURCES

HELPFUL ORGANIZATIONS

American Diabetes Association

Attn: National Call Center
1701 N. Beauregard St.
Alexandria, VA 22311
1-800-DIABETES (800-342-2383)
www.diabetes.org
Questions: askada@diabetes.org

American Heart Association

National Center
7272 Greenville Avenue
Dallas, TX 75231
1-800-AHA-USA-1 (800-242-8721)
www.americanheart.org

American Stroke Association

National Center
7272 Greenville Avenue
Dallas, TX 75231
1-888-4-STROKE (888-478-7653)
www.strokeassociation.org

American Dietetic Association

120 S. Riverside Plaza, Suite 2000
Chicago, IL 60606-6995
1-800-877-1600
Nutritional information line: 1-800-366-1655
Find a Registered Dietitian: Extension 5000 or
findrd@eatright.org
www.eatright.org

American Association of Diabetes Educators

100 W. Monroe St., Suite 400
Chicago, IL 60603
1-800-338-3633
Questions: aade@aadenet.org
www.aadenet.org

Diabetes Exercise and Sports Association (DESA)

8001 Montcastle Drive
Nashville, TN 37221
1-800-898-4322
Questions: desa@diabetes-exercise.org
www.diabetes-exercise.org

Juvenile Diabetes Research Foundation International

120 Wall Street
New York, NY 10005-4001
1-800-533-CURE (1-800-533-2873)
Questions: info@jdrf.org
www.jdrf.org

Joslin Diabetes Center

One Joslin Place
Boston, MA 02215
1-617-732-2400
www.joslin.harvard.edu

MedicAlert Foundation International

2323 Colorado Avenue
Turlock, CA 95382
1-888-633-4298
Questions: customer_service@medicalert.org
www.medicalert.org

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

National Diabetes Information Clearinghouse
1 Information Way
Bethesda, MD 20892-3560
1-800-860-8747
1-301-654-3327
E-mail: ndic@info.niddk.nih.gov
www.diabetes.niddk.nih.gov

Centers for Disease Control and Prevention (CDC)

1600 Clifton Road
Atlanta, GA 30333
1-800-311-3435
1-404-639-3534
www.cdc.gov

MAGAZINES

Diabetes Forecast

American Diabetes Association
1701 N. Beauregard St.
Alexandria, VA 22311
1-800-342-2383
Bill Outlaw: Director, Membership/Subscription Services
1-800-806-7801 (Diabetes Forecast Customer Service)
www.diabetes.org
1 year (12 issues): \$28.00
2 years (24 issues): \$52.00

Diabetes Self-Management

R.A. Rapaport Publishing, Inc.
150 West 22nd St.
New York, NY 10011
1-212-989-0200
James Moorehead, Circulation Director
1-800-234-0923 (Subscription Services)
1 year (6 issues): \$18.00
www.diabetesselfmanagement.com

Diabetes Interview

King's Publishing, Inc.
6 School St., Suite 160
Fairfax, CA 94930-1650
1-415-258-2828
Jennifer Armor: Circulation Director
1-800-488-8468 (Subscription services)
www.diabetesworld.com
1 year (12 issues): \$19.95
2 years (24 issues): \$33.95

Diabetes Positive!

Positive Health Publications, Inc.
13010 Morris Rd., 6th Floor
Alpharetta, GA 30004
Alyson Muse, Circulation Director
1-770-576-2036
1 year (12 issues): \$14.95
2 years (24 issues): \$24.95

WEB SITES

www.pubmed.org

The National Library of Medicine's database of medical journals. Some of the journals and articles are marked as easier to read, and some are also available in Spanish.

www.webmd.com

WebMD is a general health-care Web site that includes a lot of helpful information for people with type 1 or type 2 diabetes.

www.2aida.org

AIDA is a free diabetic software simulator of glucose insulin action and dose and diet adjustment. Forty case scenarios can be simulated.

www.diabetes123.com

Comprehensive information for the treatment and management of both type 1 and 2 diabetes.

www.childrenwithdiabetes.com

This site was founded by the father of a child with type 1 diabetes. An excellent support site for children with diabetes and their families.

www.diabetesmonitor.com

Focuses on the self-care of diabetes. You can participate in chat rooms and online discussions.

www.mendoza.com

A directory of diabetes care. Includes articles on diabetes management as well as listings and information about diabetes supplies and medications.

www.healthtalk.com

HealthTalk Interactive helps people with diabetes share their experiences through radio-format audio webcasts. Program archives and transcripts are available.

www.diabetic.com

Diabetic.com offers an online library, recipes, a Certified Diabetes Educator locator, and a superstore of diabetes products, including low-carb foods and over-the-counter medications.