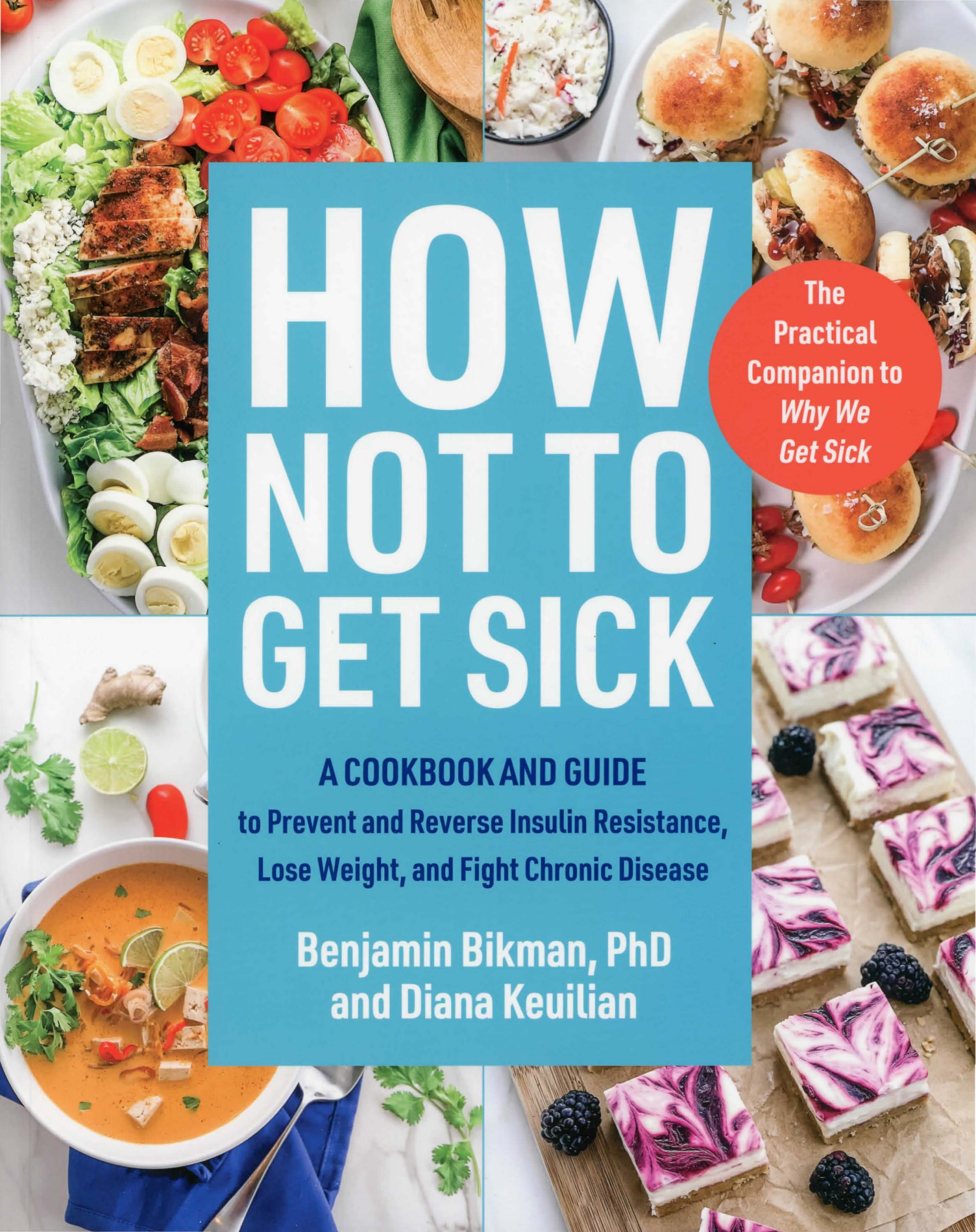


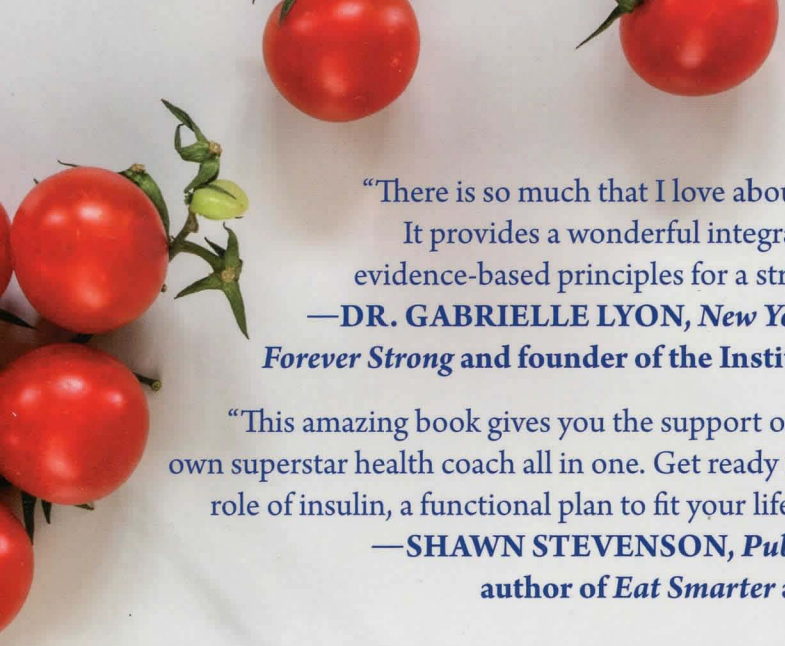
HOW NOT TO GET SICK

The Practical Companion to *Why We Get Sick*

A COOKBOOK AND GUIDE

to Prevent and Reverse Insulin Resistance, Lose Weight, and Fight Chronic Disease

Benjamin Bikman, PhD
and Diana Keuilian



"There is so much that I love about this road map to health… It provides a wonderful integration of whole foods and evidence-based principles for a strategy for optimizing health."
—DR. GABRIELLE LYON, *New York Times* bestselling author of *Forever Strong* and founder of the Institute for Muscle-Centric Medicine

"This amazing book gives you the support of a master metabolic scientist and your own superstar health coach all in one. Get ready for some game-changing insights about the role of insulin, a functional plan to fit your lifestyle, and absolutely delicious recipes!"
—SHAWN STEVENSON, *Publishers Weekly* bestselling author of *Eat Smarter* and *Sleep Smarter*

PREVENT CHRONIC DISEASE, REACH YOUR IDEAL WEIGHT, AND FEEL BETTER THAN EVER WITH THE ULTIMATE COOKBOOK AND LIFESTYLE COMPANION TO *WHY WE GET SICK*.

Internationally renowned scientist Benjamin Bikman, PhD, and fitness coach and recipe developer Diana Keuilian translate the latest research into actionable, easy-to-follow steps to help the nearly nine in ten American adults affected with insulin resistance.

In part one, learn how to assess your health and understand the science behind insulin resistance. In part two, discover a three-pronged approach to reversing insulin resistance or maintaining insulin sensitivity, plus meal plans incorporating intermittent fasting. And in part three, get the tools to put the plan into action, with beginner-friendly exercises and more than 70 low-carb and keto-friendly recipes, including:

- **BBQ Pulled Pork Sliders**
- **Mediterranean Turkey Bowls**
- **Easy Chicken Enchilada Casserole**
- **Crispy Sweet Mongolian Beef**
- **Adobo Braised Mushroom Tacos**
- **Sizzling Crab Cakes**
- **White Garlic Lasagna with Tofu**
- **Cheesy Garlic Breadsticks**
- **Frosted Fudge Brownies**
- **Iced Apple Cinnamon Muffins**

Illustrated with stunning full-color photography and chock-full of knowledge and encouragement, *How Not to Get Sick* is an essential resource for healthy living.

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For our families

and

For the courageous reader willing to take
the journey to improve their health.

CONTENTS

As a metabolic scientist, one of the most frustrating parts of my job is the expectation of how we share evidence: we conduct experiments, analyze the results, then share what we find in a peer-reviewed publication.

Even if that information is usable and helpful, very few people ever read these science publications, and the information is generally not conveyed to the public in an actionable way.

In 2017, I was pushing against these trends. I thought, "If I have relevant answers to important questions, I should find a way to translate these answers into practical solutions to real-world problems." (This thought was largely responsible for me starting to write my first book, *Why We Get Sick*.) At the same time, I wanted to test some of my ideas on people struggling with their metabolic health. To do this, I recruited a local clinic for help.

The clinical team and I identified 11 middle-aged women who were recently diagnosed with type 2 diabetes, which is a consequence of insulin resistance. The patients were offered a choice of either a prescription for an antidiabetic drug or a "prescription" for better nutrition. All 11 elected to follow the nutrition counsel. By following simple rules (the same used in this book), without ever taking any medication, they went on to improve their insulin resistance to such a degree that they had *no evidence of diabetes*—they had reversed their poor metabolic health.[1] This strategy worked expressly because we emphasized the role of insulin.

If you haven't read my first book, when you see the word *insulin*, you may think that any problem with insulin is only a problem for people with diabetes.

Even as a scientist, I used to think that too. Then came my moment of enlightenment. During my postdoctoral fellowship in metabolic disorders, I stumbled on a scientific article titled "Alzheimer's Disease Is Type 3 Diabetes,"[2] which outlined the myriad connections between insulin resistance and deficits in memory and learning. Soon after, I was searching through the breadth of biomedical literature to find other connections between chronic disorders and insulin resistance. What I found was enough to fill a book (and, well, I did)—insulin resistance was an essential part of almost every chronic health disorder. High blood pressure? It's likely insulin resistance.[3] Ringing in the ears? Could be insulin resistance.[4] Infertility? Probably insulin resistance.[5] The list goes on.

Before going further, let's make sure we have a common understanding of insulin resistance. I often describe it as a coin with two sides. On one side, there is the altered insulin effect at some cells of the body, or *reduced insulin action*. This is the pure form of insulin resistance—some cells are literally resistant to what insulin is trying to tell them to do. The other side of the coin is *hyperinsulinemia*—chronically elevated blood insulin levels. A point of emphasis: these always come together. Remember, the altered insulin effect and the elevated blood insulin are two sides of the *same coin*. In other words, there is no reduced insulin action without elevated blood insulin. To fully understand how insulin resistance contributes to so many disorders, we need to keep the two sides of the coin in mind; in specific instances, one side can be more relevant than the other. For example, Alzheimer's disease arises partly because insulin isn't working well in certain brain regions; this results in the brain not being able to get enough energy from blood glucose. However, in polycystic ovary syndrome (PCOS; the most common cause of female infertility), the ovary cells are as responsive to insulin as they ever were; the problem arises due to the excess insulin stimulating the ovary cells too much and disrupting sex hormone production.

You may think that any problem with insulin is only a problem for people with diabetes. Even as a scientist, I used to think that too. Then came my moment of enlightenment.

The two-pillared definition of insulin resistance is deliberately reflected in the two-pronged approach outlined in this book. In order to fully prevent or

reverse insulin resistance, we need to both improve the compromised insulin action on cells *and* reduce the chronically elevated insulin levels. The first of these—helping insulin work better—is very effectively addressed with physical activity. By moving the body, in all kinds of ways, we stimulate our muscles to pull in glucose much more readily. This helps lower blood glucose levels to fasting levels and, as a result, helps insulin come down. Similarly, yet distinctly, by changing what and when we eat, we can help our blood insulin levels come down and stay down. This strategy helps resolve the second aspect of insulin resistance.

This book is the road map and your personal virtual tour guide to help you get to better metabolic health.

Understanding insulin resistance—what it is, where it comes from, and what to do about it—was the focus of *Why We Get Sick*; it was a book I *had* to write to help create a conversation about insulin resistance that just wasn't happening. However, as much as I wanted to include a section in that book on how to fight insulin resistance, I feared I wouldn't be able to say it all or say it well. After reading *Why We Get Sick*, you might have had a moment when you thought, "What now?" Well, here you are.

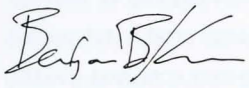
I'm a scientist and professor—my strengths are understanding problems and being able to teach these to others. I'm not a very good life coach. Laying out the actual action plan requires experience that goes beyond the laboratory. That's where Diana comes in. In a way, this is two books in one—the first part is the classroom, and the second and third parts are what happens in your home. Where I can teach you the relevance and scope of the problem, Diana can teach you what to do about it. I have the map, if you will, and can draw the line from point of origin to the destination, but Diana is the tour guide who actually gets you there. In working together, with Diana fully understanding and appreciating the relevance and origins of insulin resistance, the dietary and exercise plans you'll read about are the perfect practical implementation of the ideas borne from the best scientific evidence.

In this book, Diana and I translate the best available scientific evidence into the best available lifestyle solutions to prevent and reverse insulin resistance. First, we want to start by determining where you are with regard to

insulin resistance (chapter 1). Then, we explore what and when to eat (chapters 2 through 5), along with an overview of nondiet factors (exercise, cold-therapy, etc.; chapters 6 and 7). Following this, we lay out a threefold approach, depending on where you are metabolically speaking. After this, Diana really takes you into the specifics of what the plans should look like, including exercise protocols and carb-conscious recipes.

Wherever you are, this book is the road map and your personal virtual tour guide to help you get to better metabolic health. I wish you all the best on your journey.

Yours in health,



Benjamin Bikman

A note of caution

If you have type 2 diabetes or other insulin resistance–related diseases (hypertension, PCOS, etc.) and you take medications, please discuss all lifestyle changes with your clinical team. Seriously. The lifestyle plans outlined in this book will likely result in such dramatic changes in your level of insulin resistance that you will need to monitor your medication needs to prevent potential harmful problems. For example, blood pressure improves so rapidly in some people that if you're taking a blood pressure medication *while* improving your insulin resistance, your blood pressure could get dangerously low. Again: please discuss your plan with your clinical team so they can monitor your medication needs effectively while you improve your metabolic health without drugs–which is the only way to truly reverse insulin resistance.

A Note from Diana

Hi friend,

When I first read *Why We Get Sick* and got schooled on insulin resistance and metabolic health, I felt like a truth bomb had been set off in front of me, blowing up my understanding (or misunderstanding) of health and fitness. Wading through the rubble of what I thought I knew, disbelief, confusion, frustration, and, yes, even anger ran through me. Why was I just learning about this now after decades of running on the fitness-health-weight loss hamster wheel? Why wasn't this research taught and shared through schools and mainstream media? And, most importantly, what am I going to do with this liberating, life-changing information?

My name is Diana Keuilian, and I'm here to coach you (and coax you) through the practical steps to living an insulin-sensitive lifestyle. I'm not a scientist (don't ask me to pronounce chylomicrons or myokines!), I'm just a regular mom with a background in fitness and a knack for making healthy recipes that taste every bit as delicious as your former (waist-expanding, insulin-spiking) favorites. Most importantly, I've learned to implement Dr. Bikman's research on how to reverse and prevent insulin resistance and actively, joyfully live this truly *healthy lifestyle*.

But what does that actually mean? We've been brainwashed with many a "golden rule" of fitness that has turned out to be a metabolic health myth, including but not limited to:

- Eat low fat. (And make sure it's "healthy" fat, never saturated fats!)
- Avoid foods high in cholesterol, and don't eat too much meat or dairy.
  (You better not eat that egg yolk!)
- Eat small meals every couple of hours to burn fat.
  (Don't let your metabolism "crash"!)
- Power your workout with carbs.
  (Your muscles need fuel!)
- Don't go too long between meals.
  (You will lose muscle!)
- Smoothies and fresh juices are super healthy.
  (Especially if it's green!)
- Fasting is dangerous and extreme.
  (Why would you kill your metabolism like that?)
- All calories are the same.
  (And you better count them!)

I've worked for 20+ years in the fitness industry, and despite my experience, expertise, and passion for the subject, I struggled at times to understand what it truly meant to live a healthy lifestyle. So if I have been confused, you can imagine how clients walking into the gym felt (maybe you are one of them!). Being fit and healthy can seem like the ultimate Rubik's Cube: a time-consuming puzzle that very few solve. This confusion is made worse with contradictory information and temporary results. For instance, sure, it's possible to lose fat and gain muscle eating a calorie-controlled, low-fat, high-protein diet and doing long, intense workouts. However, it's not sustainable or efficient. A telltale sign is the overwhelming number of fitness professionals who struggle to maintain their own ideal body weight. I've been there myself many times. Mainstream health and fitness is frustrating, it's confusing, and we are clearly set up for failure. Without an understanding of the impact that insulin has on fat burning, we're basically white-knuckling through health and fitness.

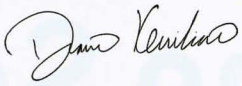
I've since shifted from my grueling conventional fitness plan (low fat, high protein, several meals per day, daily workout regimen) to an insulin-sensitive lifestyle (very low carb, high fat, moderate protein, daily intermittent fasting, occasional extended fasts, and 3 or 4 workouts per week). And the results have spoken for themselves. For

the first time ever, I've maintained sculpted abs–without being a slave to my workout routine and without having to think about diet and exercise all day long. As I'll show you in chapter 12, working out doesn't have to take a ton of time or special equipment to give you results. The fasting lifestyle (which Dr. Bikman will tell you about in chapter 2) is incredibly liberating, though it does sound strange and scary at first, especially when you're accustomed to "fueling your metabolism" with snacks and meals all day long. Most snacking and small meals throughout the day are more habit than necessity. I've come to love the feeling of fasting and the sustained, alert energy that it fills me with. And there's no question that food is less of a hassle and less of an expense when fasting for most of the day, and then cooking a satisfying, high-fat, moderate-protein, super-low-carb dinner for the family in the evening. (I also enjoy a weekly higher-carb meal and never restrict myself from enjoying the occasional indulgence.) Once you break the cycle of your current eating style, you'll find freedom that comes along with your shrinking waistline and rising insulin sensitivity.

And who knew that an insulin-sensitive lifestyle could be so enjoyable? As you'll see in chapter 13, with some smart swaps, you can still enjoy all the flavors and textures of the comfort foods you love–like my Mini Pizzas (page 226), BBQ Pulled Pork Sliders (page 176), and Layered Caramel Cookie Bars (page 240). Living carb-conscious doesn't mean you're doomed to a life of Cobb salad on repeat (though I've got a recipe for a really delicious one on page 146, so don't miss it!).

I'll be here to guide and support you along your way to better health. Let's do this!

To your best life,



Diana Keuilian

About the Authors

Benjamin Bikman earned his PhD in bioenergetics and was a postdoctoral fellow with the Duke–National University of Singapore, studying metabolic disorders. Currently, his professional focus as a scientist and professor (Brigham Young University) is to better understand the origins and consequences of metabolic disorders, including obesity and diabetes, with a particular emphasis on the role of insulin. He frequently publishes his research in peer-reviewed journals and presents at international science and public meetings.

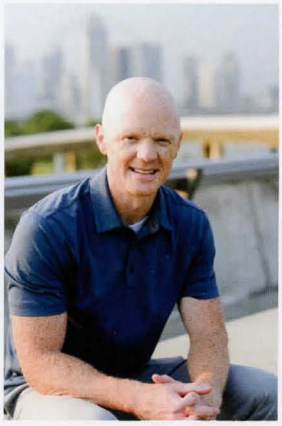


Photo by Leah Aldous

Diana Keuilian is passionate about creating wholesome versions of your favorite foods. She removes the gluten, soy, grains, and cane sugar from traditional comfort food recipes like cake, tacos, cookies, waffles, enchiladas, and more. This hobby propelled her to start the popular blog RealHealthyRecipes.com, where she shares hundreds of delicious recipes and mouthwatering photos. She lives in Southern California with her husband and two children.

Photo by Anna Frenkel

1

Am I Insulin Resistant?

Here's some bad news—you probably have insulin resistance. It's unfortunate, but, statistically, it's very likely the case. A 2019 study surveyed the metabolic health of American adults from 2009 to 2016.[1] The study authors defined "metabolic health" as an individual being in a good range in five metrics: waist circumference, fasting blood glucose, blood pressure, and two blood lipid measurements (triglycerides and high-density lipoprotein cholesterol). The results of their work were startling: *only 12% of adults in the United States were in healthy ranges in all metrics*. So it's likely that you fall into the other group—among the 88% of adults who have an unhealthy level in at least one of those five categories.

You might ask: How has the problem gotten so bad? There are numerous answers to this, but an important one is that most people have an incorrect view of metabolic health, particularly as it pertains to one of the most notorious (and common) metabolic issues, type 2 diabetes.

The conventional clinical view of type 2 diabetes is glucose-centric—patients and their doctors just keep an eye on the blood glucose (sometimes

2

Watch the Clock

Fasting is a remarkably effective and powerful strategy to lower insulin and improve insulin sensitivity. Insulin is simply antithetical to fasting; insulin is the hormone of the "fed state." This concept was established and heavily emphasized by the work of Dr. George Cahill, a legendary scientist who studied the human responses to fasting (we mention him by name in the hopes that some of you will look deeper into his fascinating work).

If insulin is the hormone of the fed state, then what we eat matters. The three macronutrients—carbohydrates, proteins, and fats—have disparate effects on insulin, with carbohydrates having the greatest effect. (Of course, the specific effect can vary greatly within those categories—for instance, let's consider two foods that are primarily carbohydrate; insulin release is practically nonexistent with broccoli, but it's substantial with candy.) But most meals will be a mix of macronutrients, which nevertheless results in some degree of insulin secretion.

On its own, this isn't overly problematic (though the mix of macros does matter, and we'll look at that in the next chapter). But it's the timing that becomes a challenge.

3

Prioritize Protein

When it comes to insulin resistance and metabolic health, what you eat can be the culprit or the cure. Of all the interventions you can undertake to reverse or prevent insulin resistance, diet will bring the biggest change—which means that your health is very much under your control.

By focusing on getting the right intake of the three macronutrients—protein, fat, and carbohydrates—we can see the beginnings of a dietary plan to put into action. While many of us get the balance wrong, when you're armed with the knowledge of *what to eat* and *why*—those macronutrients' function in our diet—actually doing it might become a lot easier. So over the next three chapters, we'll look at the three main strategies: prioritize protein, don't fear fat, and control carbohydrates.

Why We Prioritize Protein

Protein is a building block of life, so it should be no surprise that many amino acids (molecules that combine to form proteins—or the building blocks of the building blocks) are essential to humans—we must eat them to survive. When the human body lacks protein, bad things happen: muscle and bone

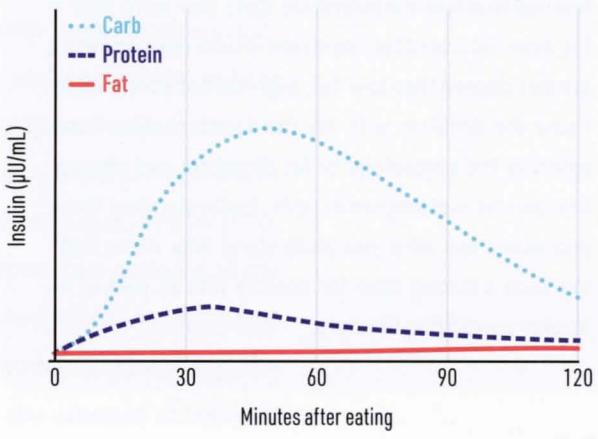
4

Don't Fear Fat

We mean it—quit being so afraid of dietary fat. If you were around in the '90s, then this might be a tough sell, but bear with us. The notion that *fat makes you fat* has lived on way past its expiration date. Far from being the metabolic villain we've heard about for the past 50 years, dietary fat is a healthy and even necessary component of the human diet. Even more, it's the most benign of the macronutrients when it comes to insulin (see the figure below), which makes it a smart addition to a dietary plan that seeks to improve insulin resistance.

But this is a hard lesson to learn—it requires unlearning decades of anti-fat messaging. Let us help with some of that.

The fear of dietary fat was borne from a fear of heart disease (and sometime later this progressed to encompass obesity, diabetes, cancer, and every other chronic disease). As happens so often, these conclusions were based on correlational studies, which tended to suggest that eating saturated fat can increase LDL cholesterol, and LDL cholesterol is associated with heart disease. Unfortunately, this ideology took hold so firmly that scientists in the



5

Control Carbohydrates

We've said it before and we'll say it again: a primary cause of insulin resistance is chronically elevated insulin. Thus, a highly effective way to start improving is to allow your insulin to be low. With this view, it's easy to see why dietary carbohydrates need to be put in their place. Carbohydrates represent the primary source of calories in the modern diet, but putting them in last place is the better position. Unfortunately, a diet that contains too much carbohydrates can double a person's fasting insulin in just a week.[1] *Why We Get Sick* highlighted dozens of articles that outline the results of clinical studies on restricting carbohydrates. A nice way to summarize the impact of these myriad studies is to mention this: the evidence is so overwhelming that even the American Diabetes Association announced that "most evidence" supports carbohydrate restriction for improving type 2 diabetes (i.e., insulin resistance).[2]

Importantly, the insulin-sensitizing benefit of carbohydrate restriction is at least as good as, and often better than, calorie restriction.[3] This is meaningful. As discussed in chapter 2, simply eating less (or not eating at all) can

6

The Power of Movement

This is probably the least controversial point we'll make: exercising is a good way to improve your metabolic health. From children to the elderly, in both males and females, exercise improves insulin resistance.[1] But it might be a challenge to put that knowledge into practice.

Diana has been coaching clients long enough to know that there's an imaginary divide in many people's minds: the "fitness people" and the "regular people." So many times, a new client will say that they "just aren't one of those fitness people" and seem to force themselves through every workout.

We've got to break it to you: you *are* one of those fitness people. You are living in a human body that is composed of muscles and a heart and a pair of lungs. You've heard the phrase "use it or lose it," and that applies here: unless you can find a way to opt out of having a physical body, then you've got to work what you have in order to make it stronger, more functional, and a more comfortable place to reside—and to improve insulin sensitivity. You don't have to do uncomfortable workouts or to oil yourself up and get onstage or take bikini

7

Stress and Sleep

There are many variables that contribute to insulin resistance—too many to explain, and without much need because many of them have such a modest influence. We consider a cause of insulin resistance to be "primary" if it meets two criteria:

1. It can cause insulin resistance on its own, without any other stimulus.
2. It has been shown to cause insulin resistance in all three commonly used biomedical models (isolated cell cultures, laboratory rodents, and humans).

This is a strict definition, but it helps cut through what might otherwise be distraction. After we've used this filter, we're left with three primary causes. In the previous chapters, we've already explored two: chronically elevated insulin and inflammation. But we haven't talked yet about the third: stress.

The Metabolic Consequences of Stress

To understand the role of stress in insulin resistance, we need to have a common understanding of what stress is. Simply put, stress that impacts insulin

8

Reverse

Most people reading this book will want to start their new insulin sensitizing lifestyle here, with the plan to Reverse. We're confident in that claim because the overwhelming majority of adults are insulin resistant.

You're ready to begin the fight against insulin resistance through that two-pronged strategy we outlined in the first part of this book. That said, we don't recommend that you jump into restricting calories right away (or at least don't make it your primary focus). Simply put, starting by cutting calories leads to hunger. If your insulin-sensitizing journey is based on cutting energy, you might be tempted to eat less and exercise more. While this can work in the (very) short term, you will unwittingly be pitting yourself against hunger, and in our environment of readily accessible food, hunger always wins. So we'll start by lowering insulin.

Lowering insulin and (eventually) energy is best achieved with two complementary strategies—a low-carbohydrate diet and intermittent fasting.

On the Reverse track, you'll aim to get 60 percent of your daily caloric intake from fat, 30 percent from protein, and 10 percent from carbohydrates. In addition, aim for less than 50 grams of net carbohydrates per day (at least at first). This will very likely have a ketogenic effect. Remember that ketones

9

Prevent

The Prevent track is intended for people who are at a sort of metabolic tipping point. As mentioned in earlier chapters, you might be here because you are currently only mildly insulin resistant—on the precipice of sliding down the hill into the bog of deep insulin resistance. Others of you have endured the struggle of climbing the slope and coming out of insulin resistance—though you might easily slip back into it. Regardless of how you got to the tipping point, this plan is intended to get you back onto the stable ground of insulin sensitivity and further from the edge.

The Reverse track strategy to keep fat cells in check via low insulin and low energy (see the previous chapter) still generally applies in the Prevent track—this is essential in climbing the metabolic hill in the first place—though your targets will shift.

On this plan you have a higher allowance for dietary carbohydrate than if you're seeking to reverse insulin resistance, but not much. Stick to a range of around 15% of calories from carbohydrates, 55% from fat, and 30% from protein. Ideally, those carbs should come from low-starch vegetables and low-sugar fruit, which will help ensure that insulin isn't spiked too often.

Revisit chapter 2 to find a strategy for intermittent fasting that you can

10

Maintain

If you're on the Maintain track, you're a rare individual—among that 12 percent of adults who are insulin sensitive. You might have success if you simply keep doing what you're doing! However, given that so many begin descending the slippery metabolic slope to insulin resistance without being aware, there's value in viewing your current state as temporary. If you want to maintain your insulin sensitivity (and remember, that gets harder with age!), it's time to start making some shifts in your lifestyle to protect your health.

You have more freedom when it comes to your lifestyle habits. This is most obviously reflected in a higher portion of carbohydrates in the diet. Because you're insulin sensitive, eating a carbohydrate-heavy meal will have a much smaller effect on the amount of insulin secreted and, more importantly, on how long it remains elevated. Indeed, your insulin will likely be elevated less than half the time compared with someone eating the same foods but with underlying insulin resistance. But again, don't take this for granted—if you're spiking insulin too frequently, the insulin curve will steadily expand and before you know it, you've slipped down the slope. So there's still much benefit in eating to keep insulin low—and even fasting. While the sample meal plan that follows doesn't build in any fasts, revisit chapter 2 and challenge yourself

11

Before You Get Started

With all this knowledge now in your brain, it's just about time to put it into practice! Before we get there, though, we'd like to pause and talk strategy—some tactics that will help you embrace and adopt your new lifestyle with success. It may be helpful to stop thinking in terms of "healthy" or "not healthy" since *healthy* has become a watered-down word that means many different things to different people. Instead, it creates perfect clarity to aim for an *insulin-sensitive lifestyle*. Here are your new "golden rules":

- Don't fear fat! Wholesome fat is an excellent source of fuel that doesn't impact insulin.
- Avoid consuming carbohydrates before or after your workout, especially in the form of sugar. Your body doesn't need it, even after a tough workout.
- Intermittent and extended fasting is an excellent way to reduce excess body fat and to promote insulin sensitivity. (And fasting can be incredibly liberating!)

12

Let's Move

The goal for this chapter is to wipe away all of the confusion and complications and reduce exercise down to its simplest and most doable forms. A plan that won't intimidate or confuse you. One that you might even enjoy!

In chapter 6, we described exercise as "a period of time wherein the muscles engage in repetitive and exhausting movement." It really doesn't have to be any more complicated than that! Your job in each workout is to push your body out of its resting state into a rapidly moving, exerting state with a simple list of compound movements and high-intensity intervals. It will be simple. And fun! We promise.

Note, if you are currently doing a fitness routine that includes challenging, regular exercise sessions several times a week, then please pat yourself on the back and move on to the next chapter. You're already doing what you need! As long as your consistent exercise routine includes both resistance training and cardiovascular exercise with sufficient intensity, then you are good to go.

What Equipment Do I Need?

You don't need a gym membership or fancy equipment to meet your exercise needs each week–only your body. While working with a fitness coach or group can be a great resource (as discussed in chapter 11), if that is simply not an option for you and you have zero equipment at your disposal, you can easily use the body weight exercises in the following pages for a perfectly adequate exercise regime. A sturdy chair can help you balance and act as a supportive surface for certain moves.

If you're looking to add some equipment to your arsenal, exercise bands, such as the ones shown in the following photos, are inexpensive and a great investment. Exercise bands are extremely versatile and are great for creating resistance against which your muscles can work.

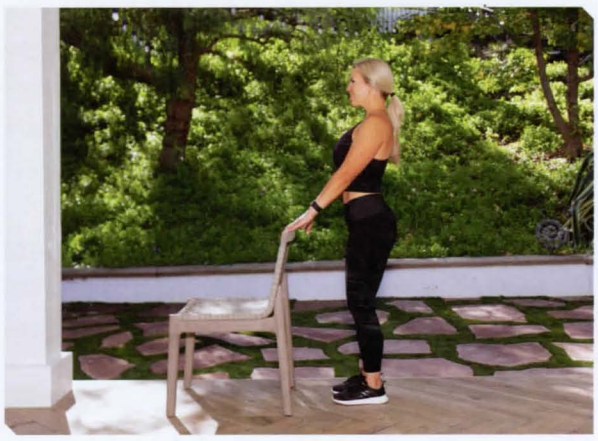
The next tier of equipment would be a pair or two of dumbbells, an exercise ball, and finally a barbell. The exercises in this chapter can be modified to use these for greater results.

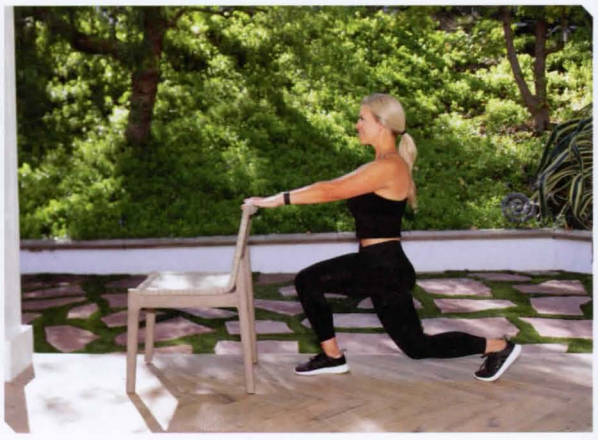
Beginner Resistance Exercises

The following exercises are a great place to start if you are a beginner to exercise, or if it has been a while since you have maintained a consistent exercise routine. These movements have been modified to reduce the load as you begin to strengthen muscles and build endurance. The number of repetitions or reps that you do will depend upon the person and how much weight you're using; perform to exhaustion (8 to 20 reps usually does the trick). Once these exercises begin to feel less challenging, simply move on to the more challenging exercises that follow.

Squat to Chair: Stand with your back to a chair, with your feet shoulder width apart, your back straight, and your arms straight out in front of you. Inhale as you bend at the knees, being careful not to extend your knees past your toes, dropping until your glutes touch the chair and your knees are at a 90-degree angle. Exhale as you rise back up to the starting position.

Lunge with Chair: Stand behind a chair with your feet together, your back straight, and your hands on the back of the chair. Inhale as you take a large step back and bend your back knee, being careful not to lean forward or extend your front knee past your toes, dropping until your front thigh is parallel to the ground and your front knee is at a 90-degree angle. Exhale and grip the chair for support as you push back up through your heel, returning your foot to the starting position. Repeat on the other side.





Carb-Conscious Recipes

13

It's time to get cooking! In this chapter, you'll find 72 delicious carb-conscious recipes to help you keep insulin low.

We want to acknowledge that food is not just fuel for most of us. Food is habit. Food is comfort. Food is tradition. Food is nostalgic. Food is so intertwined with love that it can be difficult to separate the two. This emotional layer to food adds complexity when a well-meaning scientist and lifestyle coach come along and ask you to change how you eat. (Honestly, how dare we!?) But, as we've outlined in the previous chapters, something must change to ensure your best body and health. And that something is the food that you were likely raised on and may have been eating for decades.

That said, let us reassure you that this does *not* mean a life of tasteless, boring, unappetizing meals. Not on Diana's watch! As you'll see in the upcoming pages, cooking for insulin sensitivity can be downright mouthwatering.

These recipes mostly use ingredients that likely will be familiar to you (like wholesome dairy and eggs, meat and seafood, and fresh veggies). There are just a few specialized ingredients you might need to add to your arsenal:

- Almond flour
- Coconut flour
- Coconut aminos
- Swerve or other brand of erythritol (granular, brown, and confectioners)

Recipes to Reverse, Prevent, and Maintain

Each of the following recipes fits in with one or more of the insulin-sensitizing plans outlined earlier in the book. Look for the icons on each:

R These recipes are suitable for the Reverse phase and can also be enjoyed on the Prevent and Maintain tracks.

P These recipes are great if you are on the Prevent or Maintain track.

M There are fewest of these because these recipes have relatively higher net carbs and are suitable only for those on the Maintain track.

Fluffy Pancakes (R) (P) (M)

Per serving: Calories: 390 Fat: 34g Net Carb: 5g (5%) Protein: 14g
Makes 4 servings | Prep time: 10 minutes | Cook time: 15 minutes

- 1½ cups almond flour
- 1 teaspoon baking powder
- 1 tablespoon granular Swerve
- ¼ teaspoon salt
- 3 large eggs
- ⅓ cup heavy cream
- ¼ teaspoon vanilla extract
- 1 tablespoon unsalted butter, melted, plus more for greasing (optional)
- Sliced fresh fruit or berries, for serving (optional)
- Zero-sugar syrup, for serving (optional)

Preheat a griddle or large skillet over medium-high heat. In a mixing bowl, whisk together the almond flour, baking powder, Swerve, salt, eggs, heavy cream, and vanilla. Stir in the melted butter until well combined.

Grease the griddle with additional butter or coconut oil. Reduce the heat to low. Working in batches as necessary, use a ¼ cup measure to scoop the batter onto the griddle, leaving space between the pancakes. When bubbles form (after 2–3 minutes), flip the pancakes to cook on the other side, 2–3 minutes more.

Serve with fresh fruit and a drizzle of syrup if desired.

Tip: There are many zero-sugar syrups available to replace traditional, insulin-spiking maple syrup. Look for ones sweetened with natural, zero-sugar sweeteners like stevia, monk fruit, or erythritol.

Cobb Salad with Herb Ranch Dressing (R) (P) (M)

Per serving: Calories: 454 Fat: 28g Net Carb: 7g (6%) Protein: 36g
Makes 4 servings | Prep time: 20 minutes | Cook time: 10 minutes

Salad

4 large eggs
2 heads romaine lettuce, chopped
1 cup halved cherry tomatoes
⅓ cup blue cheese crumbles
4 slices bacon, cooked and chopped
1 avocado, peeled, pitted, and sliced
2 tablespoons minced chives
2 boneless, skinless chicken breasts, cooked and sliced

Herb Ranch Dressing

¼ cup heavy cream
¼ cup sour cream
½ teaspoon minced garlic
2 teaspoons minced fresh basil
2 teaspoons minced fresh chives
½ teaspoon Italian seasoning
⅛ teaspoon ground mustard
¼ teaspoon salt
Pinch ground black pepper
¼ teaspoon apple cider vinegar

Place the eggs in a medium saucepan and pour in enough cold water to cover the eggs by about 1 inch. Bring the water to a boil over high heat. Once boiling, reduce the heat to medium and set a timer for 7 minutes. After 7 minutes, transfer the eggs to a bowl of ice water; make sure they are fully submerged. Once cool, peel and slice the eggs.

To make the dressing, in a small bowl, whisk together the heavy cream, sour cream, and minced garlic. Add the basil, chives, Italian seasoning, ground mustard, salt, and pepper and mix until fully combined. Stir in the apple cider vinegar.

Arrange the romaine lettuce on a serving platter. Top with the cherry tomatoes, blue cheese, bacon, avocado, chives, chicken, and eggs. Drizzle the dressing over the salad.

Tip: Hard-boiled eggs are an egg-cellent zero-carb food to keep on hand in the fridge. Swap out the tuna in Creamy Dill Tuna Salad for 8 chopped hard-boiled eggs and serve over lettuce leaves, wrapped in an egg tortilla (see page 136), or sandwiched in a Soft Dinner Roll (page 210).