PART ONE

Understanding and Overcoming Toxins

CHAPTER 1

Reduce Your Toxic Burden and Be Lean for Life

Jackie, a thirty-eight-year-old math teacher, had strong willpower, exercised three times a week, and tried to make healthy food choices, but her excess fat stubbornly held on. At 5 feet 3 inches tall and 183 pounds, she knew she should go to the gym more often, but she was so tired after school every day that nothing could compete with her living room sofa. She might have felt more motivated to exercise if she'd been able to keep off the weight the last time she lost it, but no matter what she did, she always gained back the extra pounds and then some. As it is for millions of people worldwide, yo-yo dieting was a way of life for Jackie.

People think obesity is caused by overeating and lack of exercise, but there's more to this epidemic than meets the eye. Jackie had been blaming her fat for her fatigue, but the fatigue and the fat were caused by the same culprits: environmental toxins in her body. I assured her that if she reduced her load of toxins, she would have more energy and fewer pounds of fat.

There's no delicate way of putting it, so we may as well face the plain, hard fact: we're all toxic. And that's one of the biggest reasons

that so many people are overweight. While not everyone with a heavy toxic burden is fat—and not everyone who's fat has a heavy toxic burden—all of my overweight patients who rid themselves of toxins automatically lose weight. Unfortunately, it doesn't work the other way around. Getting rid of the fat doesn't get rid of the toxins. They're reabsorbed by your body, and new fat immediately starts to collect around them. That's why losing weight without detoxing is the first step in gaining weight. It's why millions of people worldwide are fighting a losing battle. To win, you need to fight the toxins. And when you do, you also get rid of the fat and all of the other health problems associated with cells damaged by those toxins, including type 2 (adult-onset) diabetes and chronic viral infections. As your toxic levels go down, you'll lose excess weight naturally, and without a lot of struggle.

Toxins Make and Keep You Fat

Now you know why, despite their best efforts, most people fail when it comes to losing weight. Like Jackie, they don't know that they're fighting the wrong battle. When you fight the real enemy—toxins—you win the battle of the bulge once and for all.

If you've been beating yourself up for not being able to lose weight and keep it off, it's time to give yourself a break and place the blame where it rightfully belongs. Like most people who are overweight, you've been at an unfair disadvantage without knowing it. The more toxins your body is storing, the more fat you're likely to accumulate and retain. It's no coincidence that American obesity levels are rising side by side with environmental toxin levels. In 1990, less than 10 percent of the population in ten states was obese, and not a single state had an obesity rate higher than 14 percent, according to the Centers for Disease Control and Prevention. But by 2006—just sixteen years later—only four states had obesity rates under 20 percent. Twenty-two states had topped 25 percent, and two (Mississippi and West Virginia) had ballooned past the 30 percent mark.

All in all, 60 million Americans are obese, and more than 9 million of them are six to nineteen years old. Between the toxic food

Are Toxins Responsible for That Big Number on Your Scale?

If you're more than 10 pounds overweight and are experiencing any of the following symptoms, your toxic load is probably contributing to your weight problem.

- Asthma and allergies
- Cognitive problems (brain fog)
- Depression
- Fatigue
- Headaches
- Memory problems
- Chronic pain

conveniently located at any fast-food drive-through and the toxin-laden foods that fill the shelves of most grocery stores, children have the deck stacked against them. The kids who spend more time in front of a computer, DVD player, or television screen than actively using their muscles to play and get exercise are at an even greater disadvantage. And ultimately, obesity is a problem that many people never conquer once it's taken hold.

The United Nations reported that in the year 2000, 800 million people worldwide suffered from malnutrition. That's a sobering statistic for sure. But the statistic that made my jaw drop is that 1 billion people suffered from overnutrition. And that excess food is loaded not only with calories that people don't need, but also with toxins.

The first time I met with Jackie, I knew her body was on toxic overload. In addition to the fact that she was overweight, all of Jackie's health complaints had an autoimmune component. That means that her body was mistakenly mounting an attack against its own cells and tissues in a desperate attempt to rid itself of a lifetime of accumulated poisons. When a body is functioning the way it should, only the white blood cells that can tell the difference between the body and the invading organisms enter the bloodstream. Those that can't tell

the difference are eliminated. But Jackie's body wasn't eliminating all of the white cells that couldn't tell the difference, so her immune system wasn't working properly. The effects of autoimmunity don't just diminish the body's ability to fight infection—the condition also speeds up the production of antibodies, which lead the attack. Many environmental chemicals such as pesticides, solvents, and formaldehyde cause the body to produce these antibodies. When this happens, not only does the toll the toxins take make you tired and fat, but it also makes you sick—very sick.

Autoimmune illnesses include the likes of rheumatoid arthritis, lupus, and connective-tissue disorders like scleroderma and Sjögren's syndrome, all of which are quite common and strongly tied to toxic burden. In a recent study of my patients with autoimmune illnesses, every one of them who did a comprehensive cleansing program like the one outlined in this book reported good or great results.

In Jackie's case, it was clear that we had to lower her toxic burden before any weight loss or healing was possible. Those toxins were creating the vicious high-weight/low-health cycle she was caught in by damaging the mitochondria in her cells and slowing her metabolism to a snail's pace. Mitochondria are organelles—tiny structures inside each cell—that serve as the cells' power plant. They drive the metabolism by taking fats and sugars that are stored in fat tissue and turning them into fuel known as ATP (adenosine triphosphate), which provides all of the power that a body needs to be healthy.

When toxins enter the body and move throughout the tissues, they come into contact with the mitochondria and damage them. Mercury, for example, causes oxidative—or free radical—damage to the mitochondria, preventing energy production and often leading to early cell death. In one study, 48 percent of the mercury that was found inside the individual cells was found in the mitochondria themselves.

All of your body's systems—tissues, bones, muscles, brain, heart, lungs—rely on ATP fuel to function properly; every one of your body's trillions of cells depends on it. When your mitochondria are producing ATP, your body has plenty of fuel to maintain good health, and you feel vibrant and energetic. When your mitochondria are in tip-top condition, your body naturally seeks its optimal weight—and finds it—unless you consume far more calories than you need.

Is Your Excess Fat Hiding Toxins That Are Making You Sick?

If you're more than 25 pounds above your ideal weight and you're suffering from one or more of the following illnesses, your body is telling you that it's in toxic overload.

- Allergies
- Asthma
- Autoimmune disease (lupus, rheumatoid arthritis, Hashimoto's thyroiditis)
- Bone marrow cancer (lymphomas, leukemias, multiple myeloma)
- Chemical sensitivity
- Chronic fatique
- Chronic infection
- Diabetes
- Fibromyalgia
- Infertility
- Parkinsonism

The difference between optimal and minimal mitochondrial function is the difference between living life to its fullest and barely living at all. Lance Armstrong undoubtedly has great-functioning mitochondria. His body can translate a normal amount of food into enough energy to fly up the Alps and the Pyrenees Mountains. Though he starts with the same basic body, training, and diet as his competitors, he can get more rpms out of his legs than the others can. This is due to the mitochondria's ability to produce energy. When all of the mitochondria in your body are at their peak, your physical and mental potential soars. When the mitochondria fall from that peak, your metabolism slows down—which means it takes longer to burn calories—and you start putting on weight. The fats and sugars the mitochondria are supposed to burn for fuel turn into unwanted pounds. You become more and more sluggish, and your body gets fatter and fatter as it tries unsuccessfully to rev itself up. It can no longer burn fat the way it's intended to because thermogenesis—the process that burns fat to make heat and keeps your body temperature at a normal 98.6 degrees Fahrenheit—has been impaired. You may

also start noticing physical, mental, and emotional limitations and eventually come down with diseases and other health problems.

Speaking of which, it turned out that Jackie was suffering from severe fibromyalgia, a debilitating disorder that causes almost constant pain. I've found the condition to be strongly associated with an overburden of environmental and emotional toxins, and the pain keeps people from being able to exercise, making it easier to gain weight and harder to lose it. On top of it all, Jackie was plagued by fatigue, another problem associated with mitochondria that aren't providing energy as they should. Anyone who has ever experienced low blood sugar knows that you become fatigued and cranky and your brain doesn't work right. That's because your mitochondria haven't had enough raw fuel to make energy. Fatigue is one of the top five complaints among people exposed to industrial chemicals, and Jackie had been so tired for so long that she'd started to think it was the normal result of a day of teaching.

The cause of all of Jackie's problems wasn't that she was lacking willpower or that she just mysteriously became ill; it was that her total toxic load was too high. The first thing she needed to do was lower her toxic burden so that her mitochondria could begin to heal. We worked toward this goal by reducing the amount of toxins she was taking in and cleansing to get rid of the toxins she already had. After just a few weeks, her cleaner body allowed her mitochondria to return to full power, resuming their vital production of ATP fuel. Her energy level improved dramatically, and her health improved across the board.

While this may sound too good to be true, it is common among people who adopt a clean, green lifestyle. If you aren't happy with the way your body looks or feels, or you're not experiencing much joy in your life, focus on healing your mitochondria. As Jackie quickly discovered, just a few easy changes can make a world of difference.

Jackie was astonished that after living with chronic fatigue, obesity, and fibromyalgia for years, it took only a few weeks for her energy to return and her weight to start dropping. It took a little longer for her pain to disappear—almost four months—but after living with it for years, she could hardly believe it was gone. For weeks, she kept thinking the pain would return, but it didn't. These are the kinds of

results you can expect when you treat the cause of your health problems, including obesity.

Treating the cause means becoming educated about toxins and being vigilant about keeping as many of them out of your life as possible. My goal is to make that as simple for you as I possibly can. The first step is increasing your awareness by learning that toxins are lurking in all sorts of food and household products that you've been thinking of as safe or possibly even good for you. At least 15 trillion pounds of chemicals are manufactured or imported in the United States every year, and, as a result, more than 400 chemical contaminants have been found in human fat. Everybody has them. They're the "weight" we all carry around. You may not have all 400-plus contaminants that can be reliably identified and measured, but you can bet you have scores of them as well as dozens of others that we don't have tests for yet. And you have plenty of company. Silicon Valley assembly-line workers and organic farmers, great-grandmothers and newborn babies, couch potatoes and health nuts all have dozens of toxins stored in their bodies. No one's immune.

With hundreds of research reports that explain our toxic burden in painful detail, the question is no longer whether we have toxins in our bodies but how many and which ones. As with so many of the maladies afflicting people today, if you're overweight and suffering brain fog or chronic fatigue, you need to assess your toxic burden and take measures to lower it.

Weight Loss: The Double-Edged Sword

Jackie said she almost reached her goal weight of 135 pounds several times, but each time she became so worn out that she'd get sick and stop exercising. Then she'd start eating comfort foods, and in no time she'd put the pounds back on. What she didn't realize was that she felt worn out and got sick because she was losing weight faster than her body could rid itself of the toxins that had been stored in her fat. In fact, there was a higher percentage of toxins in her bloodstream now that she was dropping the pounds.

Yes, it's a strange situation. Though fat-stored toxins are a factor in becoming overweight, you don't lose the toxins just by losing

the weight. When the stored fat is mobilized into your bloodstream, fat-soluble toxins—toxins that dissolve in fat and take up residence there—are also released. This breakdown of fat, known as lipolysis, takes place daily—especially at night, when your body goes hours without eating. When you're dieting, exercising, or experiencing high stress, your lipolysis rate increases, and that means a higher than normal amount of persistent poisons is swimming in your bloodstream along with the fats.

The owner of several Curves franchises in the Southeast recently told me he's seen many middle-aged women work out for a couple of months but begin to feel ill when they start losing weight, which robs them of their motivation to keep working out. Fatigue takes hold, and just like Jackie, they often have other classic toxic symptoms such as headache and a flulike feeling. Mood swings can also result from the higher toxic presence. The only solution: breaking the toxin recirculation cycle.

You can burn the fat for fuel in your cells, but you can't burn the fat-soluble toxins. And they aren't automatically eliminated. Although your kidneys and bowels eliminate waste, they're designed to recycle fats and oils because they're valuable nutrients needed for survival. Yes, good fats are a necessary part of physical and mental health, but your body can't tell the difference between fat and fat-soluble toxins. Your body just knows that fats are valuable and wants to hold on to them. So when a pesticide tries to leave your body by way of one of the standard routes, the recycling system designed for your survival grabs the fat-soluble toxins and puts them back into circulation. That's why these pesticides are called persistent organic pollutants (POPs)—they persist in your body. When researchers measured levels of chlorinated pesticides in adults who lost weight through either a calorie-restricted diet or stomach-stapling surgery, they found that the more weight the people in the study lost, the higher the pesticide levels in their bodies became. Those who completed the three-month calorie-restriction program lost an average of 12 percent of their total body weight, and the level of pesticides in their blood increased by 24 percent. The circulating toxin level rose twice as much as the rate of weight loss. Pesticide levels also rose in the people who had the stapling procedure. Three months after surgery,

they'd lost an average of 21 percent of their weight, accompanied by a 52 percent increase in circulating pesticides. By the twelve-month follow-up test, the participants who'd had surgery had lost 46 percent of their presurgery weight, but their pesticide levels had shot up 388 percent. Other studies confirm the phenomenon: weight loss and skyrocketing pesticide levels go hand in hand.

These studies show very clearly that just releasing toxins from the fat into the bloodstream isn't enough to get them to leave your body. Instead, the toxins can actually flood your veins in higher levels, waiting for your body to reduce its lipolysis rate so they can go back into storage. Animal products with a high fat content are the most common sources of fat-soluble toxins, so if you're eating a diet high in animal fat, you're probably eating a lot of persistent organic pollutants.

As Jackie and many of my other patients have learned the hard way, this greater toxic presence doesn't just make and keep you fat. It can take a toll on many of your body's systems and tissues, not to mention the damage it does to your mitochondria. In an animal study that re-created the yo-yo diet effect, researchers found that when the animals were losing weight, the levels of the potent neurotoxin and immunotoxin hexachlorobenzene (HCB) rose dramatically in their blood and their brains—weight loss increased the concentration of HCB in fat tissue. The study also found that repeated weight loss and gain resulted in higher levels of HCB and fat in the liver. And, in turn, this fatty liver condition is associated with other health problems, including diabetes. HCB is also associated with symptoms such as headache, brain fog, and depression in humans. If you've already given up on diets, give yourself a big pat on the back for figuring out that *diet* is a four-letter word for a good reason.

Researchers have found that dieting without detoxing is one of the best ways to poison yourself and get fatter. In a study at Laval University, in Quebec, scientists showed that the rise in circulating toxins during weight loss led to a drop in the resting metabolic rate, which controls the number of calories burned when the body is at rest. The drop was caused by a reduction in the circulating level of the most active thyroid hormone, T_3. When T_3 levels are low, the likely results are low body temperature, fatigue, and weight gain. And after the diet is over, it is hard to keep the weight from coming

back. As someone who had been dieting since she was a child, Jackie knew all too well that the fatigue is also likely to linger, and it may be accompanied by depression. The key is to take off the weight the right way, once and for all. That's the only way to live lean and head off or reverse obesity-related illnesses such as diabetes.

Conquering Diabetes

Eliminating toxins can also reverse one of the most troubling conditions that's on the rise: diabetes. Many scientific studies show a strong correlation between toxic burden and risk of type 2 diabetes. And since diabetes and being overweight go hand in hand, I'm convinced that a higher toxic burden and a higher body weight are also connected.

Being overweight is a main risk factor for diabetes, and diabetes is also associated with having persistent organic pollutants in your body. For people with high blood levels of fat-soluble toxins, the risk factor for developing diabetes goes up by an odds ratio of between 14 and 38. An odds ratio of 1 means you have the same risk ratio as everyone else to become diabetic; a ratio of 2 means you're twice as likely to become diabetic; so a ratio between 14 and 38 is astronomically high.

In addition, if soft drinks, cookies, and other sugar-filled products are part of your daily bread, you're increasing your odds of developing adult-onset diabetes that much more. The disease has been strongly associated with the consumption of sugar, and while FDA testing has consistently shown that refined sugar is free of toxins (and everything else except sucrose), the results are the same as if it were loaded with toxins. Chronic high sugar intake outpaces both insulin production and the cells' ability to respond to the insulin that's present.

Insulin is the means by which sugar is able to enter a cell from the bloodstream in order to nourish the cell. Most people with adult-onset diabetes actually have adequate insulin production, but their cells have become insensitive to the insulin. When that happens, they can have plenty of sugar in the bloodstream but the cells (including the brain cells) are starved of sugar. Not only does the sugar fail to make it into the cells where it's needed, but the extra sugar in the

bloodstream can damage tissue. And much like toxins, sugar works against the liver's efforts to clear chemicals out of the bloodstream and prepare them for excretion. So having a low-sugar diet can go a long way toward preventing the problems that lead to diabetes.

Another culprit behind diabetes and many other chronic diseases is the mitochondrial dysfunction discussed earlier in this chapter. While there's ongoing debate among scientists as to which comes first—the dysfunction or the diabetes—there's no doubt that the two are connected.

What it all adds up to is that when you eat foods that are high in sugar and fat—the standard American diet—or one that's simply deficient in nutrients, you'll retain more toxins. When you eat a high-protein, low-fat, low-carb diet, you'll clear chemicals from your bloodstream more rapidly. But to avoid your toxic enemies, you need to know what they are and how they get into your home and your body. In chapter 2, you'll learn about the worst of these obesity-promoting villains, and you'll also find out that the worst effects of toxins are avoidable. While you can't elude them altogether, you can limit your exposure.