For the first fifty years of your life the food industry is trying to make you fat. Then, the second fifty years, the pharmaceutical industry is treating you for everything.

—Pierre Dukan, MD

What is *grainbesity*? It’s my word for the condition of being overweight as a result of eating a grain-laden diet. If you are still assuming that grain is a healthy food and that your health problems and perhaps your weight issues have nothing to do with your diet, this chapter will be your wake-up call.

So what is the connection between excess weight and grain? Consider this: feeding cows, pigs, and other livestock grain (and soy) is the primary way to fatten them for slaughter. Ditto for poultry. Of course, confining their movement helps as well. Why are we surprised that eating the same foods bulks us up, too?

In fact, our grain-based diet is an express train hurtling along the track to a station called obesity. No wonder two-thirds of American adults are overweight, including the 40 percent who are obese. But
you needn’t be one of them. Once you let go of the myth that what you eat doesn’t impact your health, you can eliminate your pain following my No-Grain, No-Pain program, all the while trimming your waistline. That change alone can reduce pain-producing stress on your joints and muscles.

THE PAIN OF DIABETES, OBESITY, ASTHMA, AND MORE

Linda was suffering with chronic back pain and metabolic syndrome, and diabetes had caused severe neuropathy that wracked her entire lower body and made her feet swell so badly she could barely walk. Severe asthma led to frequent hospitalizations for steroid treatments, and vocal cord inflammation required anti-inflammatory drugs and speech therapy to allow her to communicate. And if that wasn’t enough discomfort for one person, Linda also had stomach pain and bloating, elevated blood pressure, and severe fatigue. Her gallbladder had been removed, her fingernails were splitting, and although she is only 5 feet, 4 inches tall, she weighed about 225 pounds.

Linda described her history, saying “My body started falling apart when I turned thirty.” Twenty years later, she was under the care of three doctors and taking eight different medications to “treat” her pain and other symptoms. Nonetheless, she was getting progressively worse, and feared she was out of options. A thorough investigation revealed that Linda had a gluten-sensitive gene pattern, was allergic to both sugar and dairy products, and had a whopping twenty different vitamin and mineral deficiencies.

I put her on the No-Grain, No-Pain program immediately, along with supplements to address her vitamin and mineral deficiencies. Selenium, vitamin B1, chromium, and vitamin D were absolutely necessary because such deficiencies interfere with the body’s ability to regulate inflammation and blood sugar, and to produce thyroid hormone.

Linda’s results were dramatic, shocking her doctors. When I followed up with her six weeks later, she had lost 45 pounds, her blood pressure was normal, and the nerve pain in her legs was gone, as were
the stomach problems, episodic asthma attacks, swollen feet, and split nails. She was able to move around easily, and her energy had returned. Her vocal cord inflammation was also almost completely healed. Four months later, Linda was down to 164 pounds and virtually symptom free. She reported that she had attempted a “cheat meal” between appointments, which occasioned a four-day flare-up in asthma, leg, and back pain. She has learned her lesson. Today she is off of all eight medications and is living an active life, feeling better in her fifties than ever. Again, no grain, no pain.

MORE VICIOUS CYCLES

In previous chapters I’ve introduced a number of vicious cycles. We’ve discussed how poaching muscle to feed the immune system and combat the inflammatory effects of certain foods only creates more inflammation and pain as muscle shrinks and increases stress on joints. You now know that many of the drugs used to mask pain or reduce inflammation interfere with long-term healing and can over time actually damage the gut, causing more pain and inflammation. Moreover, such drugs deplete stores of vitamin B₁₂ and other vital nutrients essential to healing. Another catch-22: increased pain leads to decreased activity, which makes you more likely to gain weight, making it harder and more painful to be active. Not unlike the use of NSAIDs and other painkillers and anti-inflammatory drugs, continuing to eat grains sets up a vicious cycle that impedes the body’s natural healing capacity. It does so in part by stimulating weight gain, which deters activity (just as being in pain does), which leads to further weight gain.

That said, it bears repeating that people suffering from celiac disease can’t keep weight on. Nonetheless, the vast majority of people with non-celiac gluten sensitivity (NCGS) struggle to keep their weight down.² Do you remember the old nursery rhyme about Jack Sprat and his wife? (“Jack Sprat could eat no fat. His wife could eat no lean. And so between them both, you see, they licked the platter clean.”) The good news is that my No-Grain, No-Pain program helps both the Jack
Sprats with celiac disease and the Mrs. Jack Sprats (both male and female) with NCGS.

**FLAWED ASSUMPTIONS YIELD FLAWED CONCLUSIONS**

It’s time to puncture another myth.

*Myth 14: If you eat the standard American diet, as exemplified by “My Plate,” you’re eating a balanced and varied diet.*

*Not true!* The overwhelming quantity of grain and grain-based processed junk that passes for variety actually delivers singularity. If it’s any comfort, you’re not alone in thinking you were eating a healthy diet. Nor are you foolish to have been duped. Remember that the Food Guide Pyramid, which most of us grew up with (replaced recently by My Plate), recommended 6 to 11 servings of grains every day. This despite the fact that there is little scientific evidence that confirms that eating grains (whole or otherwise) promotes good health, other than being a good source of fiber, which is also in good supply in vegetables and fruits. In fact, much of the “research” upon which these guidelines are based has been funded by the cereal industry.

By the way, unlike grain and other quickly metabolized carbohydrates, dietary fat actually helps us maintain our weight. The low-fat and no-fat craze of the 1990s led to more obesity than ever before. If you’ve been cutting back on fat, thinking that’s all you need to do to slim down, think again. It does appear that the most recent food guidelines, which are in the process of being revised, are likely to no longer instruct us to restrict fat intake, and instead to acknowledge that fat is not inherently bad, although certain fats (as well as added sugars) are detrimental to health. But these anticipated changes are unlikely to be reflected in My Plate any time soon.
The 1992 Food Guide Pyramid emphasized grains over all other foods, calling for up to eleven servings a day.

**GRAIN SURPLUS**

In previous chapters, I have explained the problems many people experience when they eat grain, whether they are gluten sensitive or gluten intolerant. Now it’s time to look at the other impacts of eating grain, which can affect anyone—and everyone.

**Impact 1:** Eating grain elevates blood sugar levels, which makes your body store sugar as fat. There is a large body of research on nutrition that strongly links the intake of refined grains to metabolic syndrome, as well as diabetes.⁴

**Impact 2:** Grains are super-high in calories. Taking in too many calories and expending too few in activity make you fat.
Impact 3: Grains are simply not a good source of nutrition because they are hard to digest, contain anti-nutrients and mycotoxins, and contribute to vitamin and mineral deficiencies.\(^5\)

REFINED GRAIN AND UNINTENDED CONSEQUENCES

Whole wheat contains vitamins B\(_1\) (thiamine), B\(_2\) (riboflavin), B\(_6\) (pyridoxine), and niacin, as well as vitamin E, iron, and zinc. However, these nutrients are mostly found in the fibrous outer layers, meaning the wheat bran. When it became easy to refine grain using a mechanical process that removed both the fibrous hull and the germ, which contains fat and protein, most people eschewed whole grains. White bread was considered more refined (in terms of social class) and therefore desirable. The flour produced light, white bread...
and other wheat products, but its overuse resulted in a serious case of unintended consequences. The processing procedure, which involves extrusion and high heat, destroys the vitamins, minerals, and other nutrients, leaving only empty calories. Thousands of people died of malnutrition (from a deficit of thiamine called beriberi) in the United States in the early 1900s because this vital nutrient was missing from refined grain. In 1943 the U.S. government banned the sale of unfortified grain. Flour manufacturers then replaced many of the nutrients removed by the refining process, including vitamins B₁ and B₂, niacin, and iron. Sometimes vitamins A and D are also added. The fact that grains are fortified with vitamins and minerals has added to the myth that they are healthy foods, when in actuality what was removed has simply been replaced with synthetic versions.

COLLATERAL DAMAGE: METABOLIC SYNDROME

All you have to do is walk through a shopping mall or airport terminal to see that we have an epidemic of grainbesity. Two-thirds of American adults are overweight and almost 40 percent are obese, based on body mass index (BMI), the ratio of weight to height, which roughly ascertains how much fat is on your body. A BMI of 25 to 29.9 is considered overweight, while a BMI of 30 and above makes you technically obese. (That said, the BMI is an enormously inexact measurement because total weight alone does not determine being overweight. A heavily muscled man would appear obese on paper, thanks to the weight of his muscle mass, despite having very little body fat.) To make this a bit more understandable, a man or woman who is 5 feet, 6 inches tall who weighs between 115 and 154 pounds is considered of normal weight.

The top three causes of death in this country are cancer, heart disease, and stroke, in that order. And absolutely, hands down, obesity contributes to all of these diseases. Heavy people are at greater risk for developing all types of chronic diseases. That’s a fact, but the $64,000
(adjusted for inflation) question is why. What is in our food supply that triggers these causes of death? And why have these diseases become such major killers only in the past fifty years?  

Metabolic syndrome refers to being overweight in combination with at least two of the following factors: high blood sugar, high blood pressure (hypertension), and high triglycerides or high cholesterol. All of them can prove deadly. Metabolic syndrome is not a disease in and of itself; rather, it is the confluence of at least three disease states. As a result, your metabolic ability to process calories, keep weight off, and maintain muscle mass is impaired. Metabolic syndrome can be a precursor to type 2 diabetes, which is why it is also referred to as prediabetes.

Metabolic syndrome shows up as a certain pattern of weight gain: concentrated around the waist. On a man it presents as a potbelly, aka a beer belly, whether or not he is a teetotaler. On a woman it may look like a spare tire around her waist or a “muffin top” above her waistband. Arms and legs may remain relatively slim. Instead the fat is clustered around the vital organs, which is more of a health risk than more evenly distributed fat. If you receive a diagnosis of metabolic syndrome, it means that you have at least three of these four markers. In that case, your doctor will probably try to put you on a cardiovascular drug such as a statin. The theory is that taking such a drug will reduce your risk for a stroke or heart disease. But once again, instead of taking a drug with a host of side effects, some of them life threatening, you can beat metabolic syndrome by changing your diet, losing weight, becoming more active, and building muscle to raise your metabolism. That’s exactly what the No-Grain, No-Pain program is all about.

In addition to the serious metabolic health risks, being overweight increases wear and tear on joints, leading to various forms of arthritis, with attendant pain, as we’ve already discussed. And you needn’t be reminded that pain reduces both your inclination and your capacity for exercise as well as general activity. There we are again with another vicious cycle of pain, inactivity, increased weight gain, more pain, and so forth.
COLLATERAL DAMAGE: AN IMBALANCE OF OMEGA FATS

Most people eat too much grain, which means they overconsume calories, but there is also the matter of omega-6 fats. Grains contain far more omega-6s than omega-3s, so eating lots of grain disrupts the balance of the two in your body.8 Omega-3s are considered anti-inflammatory and omega-6s just the opposite. (An ideal ratio is 1 to 1 of omega-3s to omega-6s, although a ratio of 2 to 1 may be more achievable.) Most people eating the standard American diet actually have a ratio of 1 to 16.9 Such an imbalance increases inflammation, which in turn increases the amounts of insulin and cortisol, both hormones associated with fat storage. Even if you reduce your calorie intake, you’re more prone to weight gain if your body remains inflamed. That’s why so many people fail with Weight Watchers. They count their calories but don’t counter the inflammation. As long as you continue to eat grain you’ll continue to be inflamed, which perpetuates the grainbesity scenario.

BAD NEWS FOR OUR KIDS

Tragic as obesity and its health results are for adults, it’s even worse for children. Rates of juvenile obesity have skyrocketed, doubling over the past thirty years.10 In the 1970s, 5 percent of 2-to-5-year-olds were obese. By 2006, it was up to 10 percent. The number of obese 6-to-11-year-olds quadrupled in that same period, from 4 to 20 percent. Adolescent obesity rates (12 to 19 years of age) tripled from 6 to 18 percent.11

Researchers reporting in The New England Journal of Medicine believe that children of this generation will be the first to have a shorter life span—as little as two years or as much as five years less—than their parents.12 Today’s average life expectancy is about 77 years. The authors of this 2005 study note that were obesity suddenly to vanish, we would live,
on average, at least four to nine months longer. And get this: as a curtailer of average life span, obesity outranks accidents, murders, and suicides combined.

People struggling with obesity are more likely to develop type 2 diabetes, heart disease, hypertension, joint deterioration, and cancer, among other ailments. The younger the age at which a person becomes obese, the earlier he or she is likely to develop such conditions and therefore the more likely to die at a younger age. Once considered “adult” diseases, these catastrophic diseases now increasingly appear in obese youngsters. Moreover, the child of an obese parent has a 50 percent likelihood of being obese, jumping to 80 percent if both parents are obese. Both genetics and lifestyle (diet and activity) influence the “passing down” of obesity, but at least the latter can be modified. Although youth obesity takes a personal toll, there is also a societal one. A staggering 27 percent of young men and women are too heavy to serve in the military, with about fifteen thousand potential soldiers failing recruitment physicals annually.

Not all obese children grow up to be obese adults. Nor is obesity the only factor determining life span. Its partner in crime is lack of fitness. In 2012 about one-third of Americans aged 12 to 19 did not meet established cardiovascular physical fitness standards. Obviously, the heavier you are and the greater pain you are in, the less active you are apt to be.

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**Nutritious School Lunches, Not!**

With childhood obesity such a huge problem, it is instructive to take a look at what schoolkids are eating. So I dropped in on a school near my home to see for myself. The typical lunchroom menu is dominated by pizza, pasta salads, bread and rolls, bagels, wraps, spaghetti, grilled cheese sandwiches, fried chicken nuggets, potatoes in various forms, and processed meats and cheese. Yes, there were some vegetables and fruit. Most kids who brought lunch to school were eating processed junk food: sodas; fruit drinks made
with dyes, sugars, and artificial flavors; a vast array of chips cooked in GMO oils; sandwiches made with processed meat and cheese-like substances surrounded by a layer of hydrogenated mayo; fruit roll-ups; and cookies. This is no way to feed a growing body and developing brain.

Why are school lunches generally so bad? Many parents know nothing about nutrition—which is why so many are overweight—so they are in no position to teach their kids how to eat. Instead they leave it in the hands of the school dieticians. Not a good move. The schools are using My Plate, which is as flawed as the Food Guide Pyramid. Parents may also not realize that to keep costs down, school lunch menus are largely ruled by surpluses of grain sitting in warehouses. The National School Lunch Program started in 1946, and it’s highly likely that the increase in obesity among children in the past seven decades is tied to the program’s overemphasis on grains.

Parents with gluten-sensitive children face a double dilemma. Instead of packing supposedly gluten-free food full of preservatives, artificial ingredients, and grains, send your kid to school with real food in his or her backpack, meaning fresh fruit, meat, nuts, and vegetables. My wife cooks extra dinner so that our son can take leftovers to school in a stainless steel thermos (to keep them warm) the next day. If you’re worried about your child being “picked on” for bringing “different” food, let it go. Kids are going to be teased, regardless. Teach your child why food is important, and model the behavior that the proper care of his body starts with proper food.

BLAME IT ON HORMONES, NOT METABOLISM

I’m sure you’ve met people who complain about their weight and then in the next breath say, “But I eat like a bird, so it must be my
metabolism.” As we’ve already discussed, the more physically active you are, the higher your metabolism. What is really going on is hormonal. When you eat bread or pasta or pizza, you’re effectively telling your pancreas to release the hormone insulin, which ferries blood glucose (blood sugar) into your cells. When there is an overabundance of glucose, the blood becomes thick and sticky, just as though you added syrup to water, coating the proteins in the bloodstream. That makes one protein, hemoglobin, which carries oxygen to the cells, work harder. The longer you repeatedly elevate your blood sugar by eating grains and other high-carb foods, the less efficiently the hemoglobin produces energy. As a result, the excess sugars and carbs convert into fat, which is stored in your liver, around other organs, and in fat cells, resulting in the truncal obesity associated with metabolic syndrome.

Some hormones, including insulin, are proteins. Hormones are always floating around in our blood, and they, too, can get bogged down with sugar, which interferes with their ability to travel to different tissues and the cells, where they signal appropriate actions to DNA. The breakdown of mega-calories into sugar produces excessive glucose and high blood sugar, which creates inflammatory stress on the body. Over time, this chronic process may also lead to diabetes.

**AGEs AND AGING**

When blood sugar binds with proteins, the process is referred to as glycation. Cells get rigid, less flexible, more subject to damage, and more likely to age prematurely. This produces what are called advanced glycation end products (AGEs), which make you age prematurely. When you burn meat on your grill, you create AGEs. Likewise, when you get a bad sunburn, AGEs form in your skin tissue. Not good. You don’t want this going on inside your body either! AGEs appear to cause type 2 diabetes and may play a role in the development of Alzheimer’s.²⁰

A hemoglobin A1c (HbA1c) test measures how much sugar is coating your hemoglobin, the protein in your red blood cells that carries oxygen and produces energy. (If your fasting blood sugars are higher
than 90, it merits concern.) Diabetics have trouble healing because their sticky blood can’t transport oxygen to their cells efficiently. Nor can vitamins and minerals, which are carried by proteins in the blood, reach the cells. The outcome is often the development of what is called small blood vessel disease. It sounds benign but is anything but. The smaller blood vessels in certain parts of the body can’t get the nourishment they need, which is why diabetics have a higher risk for eye and kidney disease. The blood vessels in these organs are very small. It’s also why diabetics are apt to develop neuropathy in their toes and hands. When nutrients aren’t available to the nerves in these parts of the body, they deteriorate. Neuropathy leads to an inability to feel your feet, so if you stub your toe or step on something sharp, you may not feel it. If it becomes infected, it could lead to gangrene and eventually amputation.

**THE CORTISOL CONNECTION**

As a natural defense mechanism when confronted with chronic inflammation, the adrenal glands make more of the hormone cortisol (a corticosteroid), in an effort to downregulate inflammation. This is an example of a normal response to an abnormal diet, but it is a short-term solution because corticosteroids are also catabolic. Catabolism refers to the body poaching its own muscle for energy. And since muscle sets the metabolic rate for the body, inflammation leads to a less favorable fat-to-muscle ratio, which produces a slower resting metabolism. Even cutting calories won’t allow you to lose weight if your cortisol levels are out of whack. This is the sequence of events: bad food increases cortisol levels, which causes persistent inflammation, leading to weight gain, which leads to a permanent hormonal imbalance. So the very hormone that should reduce inflammation actually aggravates it.

What most people don’t understand is that obesity is inflammation. Perhaps it really should be called “obeseitis,” conjoining obesity and inflammation. Anyone who is lugging around excess pounds is actually over-inflamed, meaning that his or her body is the battlefield for an
internal war waged by the enemy combatants of diet load, stress load, and lack of muscle. And every time he or she eats lots of sugar or grain, it perpetuates the “obeseitis” scenario.

MORE HORMONAL ISSUES

Grain consumption also impacts other hormones that help regulate weight. Overeating grain can contribute to a dysfunctional thyroid gland. The thyroid is the master organ that regulates the body’s metabolism, and a deficiency of certain thyroid hormones can lead to excessive weight gain, as well as fatigue, bloating, dry skin and hair, joint pain, elevated cholesterol, sleep disruption, infertility, depression, and cold feet and hands. Several mechanisms of gluten sensitivity contribute to hypothyroidism, including gluten-induced GI damage. This can lead to a domino-like effect of leaky gut, followed by a cascade of inflammation and an exaggerated autoimmune response, over time leading to Hashimoto’s disease. More than 10 percent of American women have this condition, and that figure rises to almost 25 percent for women over 65.\textsuperscript{21}

We also know that eating grain can impact the hormones known as sex steroids. For a man, this can influence how well he makes testosterone, which is important for maintaining muscle and therefore a high metabolism that will keep weight off. (You’ve probably seen low-T centers popping up, as well as commercials hawking low-T remedies.) Well, vitamin and mineral deficiencies caused by eating gluten directly impact the ability to produce testosterone. The incidence of low T in men has almost doubled in recent years.\textsuperscript{22} In 2002, 3.2 percent of the men tested had low T; by 2011, it was 5.8 percent.

When it comes to estrogen, there is substantial evidence that pesticides used on grains and other crops mimic estrogen.\textsuperscript{23} Consuming such grains can create estrogen dominance.\textsuperscript{24} For women, that can result in premenstrual syndrome (PMS), polycystic ovary syndrome, painful fibroids, and other conditions. I’m not saying that grain is the only culprit in such cases, but it is definitely a potential factor. I’ve had patients whose fibroids have gone away once they went totally gluten
free, and I’ve had others whose fibroids remained. It’s my belief that
we never want to move on to medication or surgery unless we’ve enter-
tained diet as a potential cause of a problem.

Estrogen dominance doesn’t affect just women. When men are
exposed to estrogen mimics, they can mute the effects of testosterone.
That’s why some guys have man boobs, commonly referred to as gyne-
comastia, the growth of breast tissue, along with cottage-cheese cel-
lulite forming underneath the breasts. Estrogen dominance likely also
plays a role in erectile dysfunction.25

THE THYROID CONNECTION

At age 23, Kristin had already been diagnosed with gluten sensitivity
by her primary doctor and was following a traditional gluten-free diet.
When she came to see me, she was 30 pounds overweight and suffered
from severe stomachaches, a mysterious skin rash, and autoimmune
hypothyroid disease. Despite her change to a supposedly gluten-free
diet, her symptoms persisted. She was taking a variety of medications,
including creams for her rash and thyroid pills.

Kristin’s case is a classic example of how avoiding only wheat,
barley, rye, and oats can be completely ineffective. In their place, she
was consuming large amounts of corn and rice, and continued to have
inflammatory issues, a perfect example of gluten-free whiplash. We
eliminated all grains for a true gluten-free diet. After several months,
despite moving and traveling, both of which can challenge diet compli-
ance, Kristin’s symptoms were completely gone. She lost 30 pounds,
her skin was clear, and her thyroid levels had normalized, meaning she
no longer requires medication. Again, no grain, no pain.

THE PAIN OF JOINT COMPRESSION

You may be thinking this is all very interesting and scary, but how does
it relate to pain? I’m glad you asked. You already know that the vicious
cycle of muscle loss and weight gain compresses the joints. Muscles
connect your joints. When muscles deteriorate, they get shorter. If the muscle is shorter, that compresses the joint. Every extra pound you’re carrying around puts greater gravitational compression on the joint. Having less muscle mass aggravates the situation. The double whammy of muscle atrophy combined with excessive weight creates another vicious cycle of pain and inflammation. Because the joints are overworked, overstrained, and grinding together, any exercise is painful. So the very thing that could help save you from being overweight and in pain becomes a contributing factor to more inflammation, pain, and extra pounds.

So what’s the solution? First of all, everyone needs to have a minimum quantity of motion, mobility, and movement in the course of the day. The average American works and sits for eight hours a day. You can’t work out for twenty minutes (or even an hour) and then sit for eight hours and expect that the former will offset the latter. It simply doesn’t compute. You need to find ways to move regularly, whether or not you have a sedentary job. This is where the activities of daily living come into play. We need to consistently and constantly be conscious of ways to be in motion. I’m talking about deliberately parking farther away from the entrance to a store, climbing up and down stairs instead of taking the elevator, walking instead of driving whenever possible, walking in a zigzag pattern instead of in a straight line, getting off the bus or subway a stop before your destination, and the like. By themselves, these are all small things, but they can add up big in terms of mobility and motion.

Let’s do some math. If a 160-pound man walks five miles a day, he burns about 350 extra calories a day more than if he just sat around on the sofa. That’s the equivalent of a pound every ten days, which is three pounds a month, which is 36 pounds a year. The average person usually takes only about two thousand steps a day, which is what I see with many of my patients. Using a digital tracking device such as a Fitbit or even an old-fashioned pedometer can help you be conscious of how active you are. If you try to guesstimate, you’re almost certainly going to overestimate your activity level (and underestimate your calorie intake). Once you have tracked yourself for several weeks, you should have a good idea of your normal day-to-day activity level.
Then you can add what is necessary to achieve a level of activity that helps prevent obesity.

**IT HURTS TO BE FAT**

Obesity creates pain because being overweight and being inflamed are two sides of the same coin. Obesity is an inflammatory disease. As long as the body is systemically inflamed, it’s more prone to chronic pain in the muscles, joints, tendons, and ligaments. This is why weekend warriors get injured. They don’t realize that they can’t do what they did when they were eighteen, because they have ten (or twenty or thirty) more years of accumulated inflammatory damage. Trying to turn back the clock to what they did once upon a time is like the proverbial needle that breaks the camel’s back.

When you combine grainbesity with the resultant wear and tear on the muscles and other tissues, in combination with “obeseititis,” you have a perfect prescription for pain. If you’re not overweight yet but are grain intolerant, your body is in a favored state to become fat. And as long you continue to eat grain, you will stay chronically inflamed and you will be in chronic pain. Now add to this the medication you have probably been using. If you’re overweight, your joints hurt, so you’re taking ibuprofen, which little by little destroys your gut, which leads to more leaky gut and leaches out the very vitamin C you need to help heal your muscles and joints. So now you’re just stuck. How do you dig yourself out of that hole?

The vicious cycles comprise not just obesity, joint compression, and joint wear and tear, but also neuropathy. If your spine’s joints are being broken down, they press against and pinch the nerves exiting the spine, which gives the nerve less wiggle room to maneuver. This can result in neuropathies, so nerve pain joins the pain pity party. Meanwhile, because you’re overeating or eating foods that are inflammatory, your gut is going to be inflamed and painful as well.
EMOTIONAL PAIN

Being overweight is a pain in the neck, back, and everywhere else, but it also produces psychological pain in the form of depression and low self-image, which, all too often lead to overeating. Gluteomorphin, also known as gliadorphin, is a peptide found in wheat gluten (gliadin). Another peptide called casomorphin is found in casein, a milk protein. Elevated levels of these peptides (short chains of proteins) have been found in the urine of individuals with celiac disease, schizophrenia, and autism. The researchers who made this discovery suspect that elevated levels of both peptides may also be found in the urine of people with chronic fatigue syndrome. If gluteomorphin and casomorphin sound like opiates, you’re right on. Both react with opiate receptors in the brain, so they mimic the effects of drugs like heroin and morphine, as Dr. William Davis explains in *Wheat Belly*. Dr. David Perlmutter also explores the gut-brain connection in his pivotal book *Grain Brain*. Eating grains and dairy products presumably soothes individuals with depression and other emotional or mental disorders. It is suspected that when such foods are not properly digested, they aggravate such conditions, leading to more weight gain—and more pain and inflammation. Yet another vicious cycle.

An Ancient Culture Meets the Standard American Diet

A longitudinal study on the Pima Indians of the Southwest, a culture that traditionally did not eat grains, has demonstrated the disastrous results when its people switched to the standard American diet (SAD) and lifestyle. Over roughly three decades, a population that had not experienced diabetes or obesity while following its traditional diet based on farming, hunting, and fishing gradually switched to the SAD. The result was an astronomical incidence of obesity and diabetes. Geneticist James Neel proposed that the Pimas had what he called a “thrifty” gene. By this he meant that their bodies were accustomed to a cycle of feast or famine and were able to store energy as fat during lean times and then use
it when needed, much as hibernating animals do. A pair of epidemiologists who followed the Pimas during this transition period as they began to consume more grain, more processed fats, more sugar, and more soda—and adopt a more sedentary lifestyle—concluded that the Pimas’ old friend, the thrifty genotype, had become its enemy. With no period of famine, they packed on fat that they never needed to tap for energy in lean times. By 1990, more than 75 percent of Pimas were obese and more than 45 percent of them had type 2 diabetes. The initial study of the change in eating habits of Aleuts (Eskimos) reached similar conclusions. Both cultures continue to be the subject of extensive research on diet and disease.

WHAT YOU NEED TO KNOW

- Our grain-centric diet is intimately related to the current epidemic of obesity.
- Eating grain elevates blood sugar levels, encouraging fat storage, which is linked to metabolic syndrome and type 2 diabetes.
- Too much sugar in the blood makes it syrupy, which can lead to glycation, which ages you prematurely, as well as impaired ability to deliver oxygen to the cells to make energy and disperse nutrients to nerves.
- Glutens can induce joint pain in susceptible individuals, which makes exercise difficult, discouraging the very thing that could help relieve inflammation and pare pounds.
- The combination of reduced muscle mass, as a result of inflammation, and excess body fat is a double whammy in terms of achieving a healthy metabolism.
- Grains also deliver an imbalance of inflammatory omega-6 fats.
- The hormonal impacts of eating grains are far reaching, including insulin resistance that can lead to type 2 diabetes, hypothyroidism, excess cortisol production, low testosterone, and estrogen dominance, all of which can pile on pounds.
Obesity is an inflammatory disease that can be cured with a change of diet and regular exercise.

In part 2 you’ll learn about all the wonderful foods you can eat on the No-Grain, No-Pain program.

**BONUS FEATURE**
Video on nutrition and the thyroid: glutenfreesociety.org/no-grain-no-pain-thyroid-function-and-nutrition.

Hungry for more? Read *No Grain No Pain*, and get the education that will allow you to overcome the obstacles you are encountering on your health journey. Take control back, and let Dr. Osborne show you how to avoid the pain of chronic autoimmune disease!