

Chapter 1

Wrapping Your Mind around Belly Fat

In This Chapter

- ▶ Understanding what belly fat is
 - ▶ Seeing why people develop belly fat
 - ▶ Discovering the health consequences of too much belly fat
 - ▶ Assessing your own health risks
-

You've heard it in the news and possibly seen it in the mirror. *Belly fat* seems to be the latest buzzword. But what exactly is it? How do you know if you have too much? And is belly fat really any different from fat in other parts of your body? The truth is that belly fat, also known as *visceral fat*, is, indeed, much different from fat in other areas. In fact, belly fat is considered the single most harmful form of fat in your entire body! Having a high level of belly fat has been linked to heart disease, high blood pressure, metabolic syndrome, type 2 diabetes, and even certain cancers. And here's some surprising news: You don't have to be overweight to have too much belly fat. Even people at their ideal body weight can have too high a percentage of body fat, specifically in the midsection. Even at a normal body weight, if your waistline expands by 4 inches over time, this can increase your risk for stroke by as much as 15 percent!

Throughout this chapter, we explain what belly fat is, where excess belly fat comes from, the health consequences of having too much belly fat, and how to determine if you have too much. When you understand belly fat and how you accumulate it, you can start taking action to reduce it in order to improve your overall health, appearance, and energy levels!

What Is Belly Fat?

To understand belly fat, first you need to understand the various types of fat in your body. The body contains three distinct types of fat:

- ✓ **Triglycerides:** Triglycerides make up about 95 percent of all the fat in your body. This is the fat that circulates in your bloodstream and provides a source of energy to your body.
- ✓ **Subcutaneous fat:** Subcutaneous fat is the layer of fat that lies right below the skin's surface, between the skin and the abdominal wall. This is the fat that you can pinch with your fingers. It's also typically the fat that you aim to reduce for cosmetic reasons.
- ✓ **Visceral fat:** The last type of fat in your body is visceral fat, or what is often referred to as belly fat. This fat hangs below the muscles of your abdomen where it's in close proximity to most of your vital organs. And that's what makes this fat so dangerous. Because of its location, visceral fat is the easiest source of energy for your internal organs, providing them with a constant, steady stream of energy while at the same time exposing them to toxic hormones and chemicals. And that's one reason that this fat is so deadly.

Figure 1-1 illustrates where subcutaneous fat and visceral fat are located. As you can see, subcutaneous fat is the outermost layer of fat and sits on top of abdominal muscles. Below the abdominal muscle is where visceral fat lies. Even though you can't pinch this fat or see it with your eyes, chances are, if you have a large amount of subcutaneous fat, you also have an excessive amount of visceral fat. And as the figure shows, this dangerous fat surrounds all the organs in the abdominal cavity.

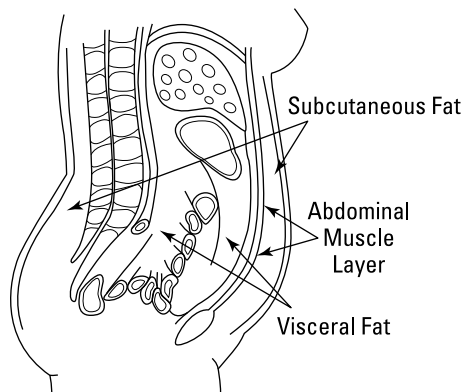


Figure 1-1:
Where subcutaneous fat and visceral fat are located.

Illustration by Wiley, Composition Services Graphics

Fat cells don't just passively hang around and provide stored energy. Research has found that fat cells are actually *metabolically active*, meaning that they secrete hormones and chemicals that can impact every organ in your body. When you're at a healthy body weight and you have a healthy level of body fat, the chemicals and hormones secreted by fat cells are healthy. They help to regulate appetite and insulin levels, and even help you to burn stored fat. But when you have too many fat cells or your fat cells become larger in size than normal (which can happen in people who are overweight or have excess body fat), your fat cells are producing more hormones and chemicals than your body needs, which, over time, can impact your health, increase inflammation in your body, and increase your risk for diseases such as diabetes, heart disease, and cancer.



So, excessive fat anywhere in your body can be damaging, but what makes visceral fat the most dangerous fat is that it's thought to produce an even larger amount of harmful chemicals than subcutaneous fat does. Because visceral fat is so close to your organs, excess visceral fat can cause some serious damage throughout your body. In addition, visceral fat surrounds your organs and, over time, can place excess pressure on them, virtually strangling the organs and putting stress on their ability to function correctly.

Why Does Belly Fat Develop?

In order to successfully shed belly fat once and for all, it helps to know the reasons that you accumulated excessive belly fat in the first place. Once you know where this belly fat is coming from and why, you can begin to make the changes needed to get rid of it for good!

Excessive accumulation of belly fat doesn't come from just one place or one behavior. Many factors can impact belly fat. Of course, what you put into your mouth plays a major role, but other factors also can increase or decrease your level of belly fat, including your lifestyle (for example, your stress level and how much sleep you get) and hormones. In this section, we cover all these factors.

Diet

How and what you eat can play a major role in the amount of belly fat you accumulate. By limiting your intake of belly-bloating foods and transitioning to alternatives that can actually slim your waistline, not only can you lose body weight, but you can significantly reduce your waistline.



Here are some of the biggest dietary contributors to belly fat, along with some slimming alternatives:



- ✓ **Simple sugars:** If you sprinkle sugar on your cereal or sip on soda, sweetened teas, and fruit drinks, you're providing your body with a large amount of simple sugars. Simple sugar is sugar in its simplest form — your body can use this sugar for energy with very little effort. Unfortunately, because simple sugars are so easily utilized by your body for energy, they can lead to rapid spikes in blood sugar. This, in turn, triggers a rapid increase in insulin, which signals your body to store more fat (especially belly fat).

Avoid simple sugars by choosing low-sugar and sugar-free beverages whenever possible. Instead, opt for water, naturally flavored seltzer, or unsweetened ice teas. To sweeten foods, use seasonings such as cinnamon instead of added sugar.



- ✓ **Refined carbohydrates:** Foods that are made with enriched and white flours are called *refined carbohydrates*. Your body digests these carbohydrates rapidly, leading to spikes in both insulin and blood glucose levels (see “Insulin,” later in this chapter).

Instead, choose 100 percent whole-grain options. You can identify these by looking for the first ingredient listed on the label — it should contain the word *whole* (such as *whole oat flour* or *whole wheat flour*).

- ✓ **Unhealthy fats:** Eating a meal that contains fat doesn't necessarily mean that you'll increase your body fat. However, certain types of dietary fat *do* encourage the increase of belly fat. Saturated fats (which are found in high-fat animal proteins, butter, cream, and so on) and trans fats (which are found in many processed and commercial baked and fried goods) can have very negative impacts on overall health. A diet high in these fats can increase inflammation, increase your risk of heart disease and diabetes, and of course, pack on the belly fat!

These fats can have such an impact on belly fat that a study out of Johns Hopkins University found the amount of fat surrounding your abdomen is directly proportional to the amount of saturated fat you take in through your diet.



On the flip side, unsaturated fats — specifically, monounsaturated fats (found in olive oil, almonds, avocados, and so on) and omega-3 fatty acids (found in fish, walnuts, flaxseeds, chia seeds, and so on) — have been found to *decrease* belly fat. By replacing saturated fats and trans fats with monounsaturated fats and omega-3 fatty acids, you can improve your overall health, as well as reduce your waistline.

- ✓ **High-sugar, high-fat drinks:** What you drink may be just as important for shedding belly fat as what you eat. Drinks can seem harmless, but they actually can cause significant damage to your health and your waistline. In fact, consuming excessive fluid calories may be the most damaging thing you can do to your belly. Drinking your calories in the



form of soda, juice, whole milk, and coffee loaded with creamers and sugar can set off a cascading effect of elevated blood glucose and insulin levels, resulting in an increased amount of belly fat storage. What's even worse is that fluids don't keep you full in the same way that solid foods do. So, now you've consumed calories, but you're still hungry. This combination can lead you to eat more, resulting in weight gain.

Instead of consuming high-sugar, high-fat drinks, opt for low-sugar, low-calorie beverages such as water, seltzer (even naturally flavored seltzers), unsweetened teas and coffees, and low-fat milk.

Diet isn't just about *what* you eat, it's also about *how* you eat. Have you ever thought, "I'll just skip breakfast so I can limit my total daily calories and lose weight"? If so, did this strategy work for you? Most likely, no. Although you may save a few calories by skipping a meal, this strategy will eventually backfire and lead to your gaining even more weight and belly fat. Why? Because skipping meals can lead to excessive hunger. Think about the last time you were extremely hungry. Were you craving a salad, or did you want to down a bag of chips followed by a few slices of pizza? Usually, when you get too hungry, your mind doesn't want healthier food options. Instead, you start to crave foods high in unhealthy fats or rich in refined carbohydrates. You may also eat faster than you normally would, causing you to miss the signs that you're full, which can result in overeating.

Plus, skipping meals can confuse your body. Your body begins to wonder when the next meal is coming, or if it's coming at all. Now, instead of burning up stored fat for energy, it protects you by slowing down your metabolism to *conserve* energy, in case potential famine or starvation is on the horizon. In addition, your body works to store more fat to save up additional energy reserves in case the next meal never comes. Although this strategy would be helpful if you truly were in danger of starvation, when you intentionally skip meals, it can prevent you from losing weight and belly fat.



The best strategy for belly fat loss and weight loss is to eat a balanced meal or snack every three to four hours. This way, you avoid excessive hunger and food cravings, and keep your metabolism functioning at its peak.

Lifestyle

According to the U.S. Centers for Disease Control and Prevention (CDC), as of 2011, 36 percent of all American adults over age 20 are now obese with another 33 percent classified as being overweight. In addition, the CDC also states that 17 percent of children are now classified as obese. That means that more than half the country is above their ideal body weight, and our children are well on their way. So, what's causing so many people to gain weight and keep them from being able to lose it? There isn't a simple answer, but many lifestyle factors play a role in the obesity epidemic.

Over the past few decades, people's schedules have been getting busier, work demands have been getting higher, and many people work longer hours while struggling to make ends meet in an uncertain economy. (It's no wonder stress levels are high!) You may feel as though you don't have a minute to sit and relax, or even breathe, between juggling work, family, and your other responsibilities. And when you're overscheduled, you may not find the time to exercise or to prepare a healthy meal. Instead, you may pull into a drive-thru and eat your meal in front of the computer or TV. This can cause you to eat foods rich in refined carbohydrates, saturated fats, and sodium — the perfect recipe for increased belly fat.

Another side effect of an overscheduled, stressful lifestyle is lack of sleep. Maybe you're staying up late to meet a deadline or you can't fall asleep at night because your mind is racing with thoughts of the bills you need to pay and all the things you need to do tomorrow that you didn't get done today. Getting too little sleep can have a major impact on your overall health. Inadequate sleep raises stress hormone levels, can slow metabolism, and can even increase hunger — a combination that is sure to result in increased belly fat!

Hormones

Many, many hormones are constantly cycling through your body each and every day. However, when some of these hormones are out of balance, it can trigger your body to start storing fat, specifically in your midsection. This can lead to an accumulation of excessive subcutaneous fat, as well as visceral fat. Insulin and stress hormones, such as adrenaline and cortisol, are the main hormones that impact belly fat.

Insulin

When you eat, your digestive system breaks down food into small particles that can be used for fuel in your body. Carbohydrates are broken down into simple sugars called *glucose*, which is the primary source of energy for every cell in your body. Glucose is then absorbed in your bloodstream, creating a rise in blood glucose levels. To allow your body's cells to take glucose from the bloodstream and use it as energy, your pancreas produces a hormone called *insulin*. Insulin picks up the glucose and transports it into your cells. The glucose is either used for energy immediately or stored as an energy reserve for later.

If you eat a food that is rapidly digested (meaning that it's quickly converted into glucose), this can cause a spike in blood glucose levels, resulting in a rapid rise in insulin. The insulin then works to quickly move glucose into your body's cells. When the glucose isn't immediately needed for energy, it's stored away in your fat stores as an energy reserve. If you start to store more and more of this extra energy and never get around to burning it, you end up with fat cells that are increasing in size. Insulin's favorite place to store excess energy is right in your midsection, which results in an increased amount of belly fat.

The amount of insulin circulating in your body and storing fat largely depends on the food choices you make. Foods high in refined carbohydrates and simple sugars, such as candy, white bread, and sugary beverages, spike blood glucose and insulin levels, resulting in an increased amount of belly fat storage. On the other hand, lean proteins, healthy fats, and fiber help to slow the amount of glucose released into the bloodstream. These foods help to keep blood glucose levels consistent throughout the day, which protects against spikes in insulin.



By eating a diet rich in lean proteins, vegetables, whole grains, and healthy fats, you can work to stabilize your blood glucose and insulin levels, helping to reduce the amount of belly fat you store.

Stress hormones

If you want to achieve a flat stomach once and for all, you must gain control over the amount of stress in your life. During times of stress, your body goes into “fight-or-flight” mode, as it gears up to protect you against a predator or other physical stress. (This response was very helpful when we were cavemen, but it’s not quite as helpful for the kinds of stresses most of us face today.) When you’re under stress, your body increases its production of a stress hormone called *adrenaline*, which then signals your body’s fat cells to release stores of fatty acids to be used as energy.

The problem is, when stress comes from a non-physical source, such as from your boss rather than a mastodon, the fatty acids aren’t burned off. Instead, the adrenal glands release the hormone *cortisol* to collect and store the unused fatty acids. Unfortunately, cortisol doesn’t always bring these fatty acids back to the cells they came from. Instead, it tends to favor storing fat right in your abdomen. So, if this cycle repeats itself on a regular basis because you’re under a lot of stress, more fat is mobilized and relocated right to your waistline.

What Does Belly Fat Mean for Your Health?

Who doesn’t want to look great in a bathing suit and be happy with the man (or woman) in the mirror? But the quest to banish belly fat isn’t just skin deep. Belly fat is the most dangerous fat in your body. And having even just a small amount of excess belly fat can have a significant impact on your overall health. Elevated levels of belly fat can cause inflammation throughout your body and increase your risk for everything from heart disease to metabolic syndrome to diabetes to cancer. Belly fat has such a dramatic impact on health that a study out of Europe found that increasing your waist circumference by just 2 inches (even if you’re within a healthy weight range) can increase the risk for mortality in women by 13 percent and in men by 17 percent! As you can see, getting your waistline under control is vital to taking charge of your health and improving your overall wellness and longevity.

Heart disease

If you want to have a healthy heart, slimming your waistline is essential. Research has found that a large waistline can increase your risk for high blood pressure, heart disease, and even stroke. The link is so strong that a recent study out of Johns Hopkins University found that losing belly fat was directly correlated with an improvement in the flexibility of arteries, allowing for improved blood flow and reducing strain on the heart.



So, why does belly fat wreak such havoc on the heart? Studies have found that visceral fat produces specific proteins that can cause damage within the body. These proteins can cause contraction in blood vessels, elevating blood pressure. Additionally, they can trigger chronic inflammation, which can lead to a buildup of plaque in the arteries. In addition, a large waistline can contribute to metabolic syndrome, a condition of early-stage insulin resistance that can dramatically increase your risk for heart disease (see the “Metabolic syndrome” section, later).

High blood pressure

Blood pressure is the measurement of the blood’s force against the wall of the arteries. When weight is elevated, excess fat can place additional pressure on the walls of your arteries, increasing blood pressure. When blood pressure is elevated, your organs — such as your heart and your kidneys — have to work harder. If blood pressure isn’t controlled, it can significantly damage these vital organs, which is why achieving and maintaining a healthy body weight is so critical to your health.

Metabolic syndrome

Excessive amounts of visceral fat in your body can increase the amount of free fatty acids circulating in your bloodstream. This can lead to elevated triglyceride levels, as well as a decline in HDL (“good”) cholesterol levels. In addition, excessive levels of belly fat can also increase *insulin resistance*, a condition that occurs when the cells of the body have a decreased ability to respond to insulin. All these factors can increase your risk of developing metabolic syndrome.

Metabolic syndrome is the umbrella term for a combination of disorders that, when combined, can indicate a high risk for the development of heart disease, diabetes, and stroke. The more risk factors you have, the higher your risk for disease. In fact, having metabolic syndrome can make you twice as likely to develop heart disease and five times as likely to develop diabetes than someone without any risk factors.



There are five main risk factors that are looked at when determining if someone has metabolic syndrome. Displaying at least three of the five risk factors qualifies you as having this condition. The risk factors are

- ✓ **A large waistline:** Men should have a waist circumference less than 40 inches; women, less than 35 inches.
- ✓ **Elevated triglyceride levels:** Triglyceride levels should be less than 150 mg/dL.
- ✓ **Low HDL cholesterol levels:** Men should have HDL levels of at least 45 mg/dL; women, at least 50 mg/dL.
- ✓ **Elevated blood pressure levels:** Normal blood pressure is considered 120/80 mmHg.
- ✓ **Elevated fasting blood glucose:** Normal fasting blood glucose is less than 100 mg/dL.

As you can see, not only is excessive belly fat a risk factor for metabolic syndrome, but having an increased amount of this fat can increase your chances of developing many of the other risk factors that qualify you for having metabolic syndrome.

Diabetes

As belly fat increases, so does insulin resistance. As your cells become more and more resistant to insulin, sugar from the food you eat is unable to enter the cells freely. Instead, insulin, which carries the sugar from your bloodstream into your cells for energy, is essentially locked out. This means that although you're producing insulin, it can't do its job correctly, which results in rising blood sugar levels. When blood sugar levels increase outside the normal range and stay elevated, this increases your risk of developing type 2 diabetes.

Cancer

Fat cells are not just stored energy; they're also metabolically active. This means that they're constantly producing hormones and chemicals that can impact your body. One of the hormones that fat cells produce is estrogen. The more fat cells you have, and the larger those fat cells are, the more estrogen they produce. This means that individuals who are overweight and have excessive body fat will have higher levels of circulating estrogen in their bodies than people who are at a normal body weight.



Although estrogen can be beneficial to the body, high levels of estrogen can promote tumor growth in the breasts. It can also increase the risk of colorectal cancer in both men and women.

Are You at Risk?

Your body weight on a scale doesn't tell the whole picture when it comes to visceral fat. In fact, even individuals who are at their ideal body weight can have too much belly fat. And a person who would be classified as "overweight" by looking at the scale alone may actually have a large amount of muscle mass and a lower percentage of body fat. Bottom line: The number on the scale tells you nothing about visceral fat or your risk for medical complications.

Now, we're not saying to throw away the scale completely. But just keep in mind that the scale doesn't tell the whole story when it comes to belly fat. Other numbers, such as body mass index and waist circumference, will give you a much more accurate measure of your true risk when it comes to belly fat.

Calculating your body mass index

Body mass index (BMI) is a formula that uses your body weight and your height to help you determine if you're at a healthy weight, underweight, overweight, or obese. BMI can be a good indication of body fat in most people, but, just like the scale, it's not perfect. People with large amounts of muscle mass, such as elite athletes and bodybuilders, can have an elevated BMI but a low percentage of body fat.

BMI does *not* measure body fat directly, but it is the most practical and affordable method in an office or home setting for determining whether you're overweight or at risk for becoming overweight. If your BMI falls outside the ideal range, you can use the additional measurement methods in this chapter to determine if you have excessive visceral fat.

To determine your individual BMI measurement, use the chart in Figure 1-2. You need to know your height in inches and your weight in pounds. Look at the left side of the chart and find your height in inches. Then find your body weight in pounds. Finally, find where these two numbers intersect and drag your finger toward the top of the chart to see the corresponding BMI. Table 1-1 tells you what that number means (that is, whether you're in the healthy range or whether you're under- or overweight).



If you can't find your BMI on this chart, or if you just prefer online calculators, check out the one offered by the National Heart, Lung, and Blood Institute: www.nhlbi.support.com/bmi.

Ideally, you want to keep your BMI within the healthy range, because a BMI outside this range can significantly increase your risk of developing weight-related health conditions.

BMI (kg/m ²)	19	20	21	22	23	24	25	26	27	28	29	30	35	40
Height (in.)	Weight (lb.)													
58	91	96	100	105	110	115	119	124	129	134	138	143	167	191
59	94	99	104	109	114	119	124	128	133	138	143	148	173	198
60	97	102	107	112	118	123	128	133	138	143	148	153	179	204
61	100	106	111	116	122	127	132	137	143	148	153	158	185	211
62	104	109	115	120	126	131	136	142	147	153	158	164	191	218
63	107	113	118	124	130	135	141	146	152	158	163	169	197	225
64	110	116	122	128	134	140	145	151	157	163	169	174	204	232
65	114	120	126	132	138	144	150	156	162	168	174	180	210	240
66	118	124	130	136	142	148	155	161	167	173	179	186	216	247
67	121	127	134	140	146	153	159	166	172	178	185	191	223	255
68	125	131	138	144	151	158	164	171	177	184	190	197	230	262
69	128	135	142	149	155	162	169	176	182	189	196	203	236	270
70	132	139	146	153	160	167	174	181	188	195	202	207	243	278
71	136	143	150	157	165	172	179	186	193	200	208	215	250	286
72	140	147	154	162	169	177	184	191	199	206	213	221	258	294
73	144	151	159	166	174	182	189	197	204	212	219	227	265	302
74	148	155	163	171	179	186	194	202	210	218	225	233	272	311
75	152	160	168	176	184	192	200	208	216	224	232	240	279	319
76	156	164	172	180	189	197	205	213	221	230	238	246	287	328

Figure 1-2:
Find your BMI using this chart.

Table 1-1 BMI Categories and Risk

<i>BMI</i>	<i>Weight Status</i>	<i>Risk</i>
Less than 18.5	Underweight	Increased risk
18.5–24.9	Healthy weight	Low risk
25.0–29.9	Overweight	Increased risk
30.0–39.9	Obese	High risk
40.0 or more	Severe obesity	Very high risk

Source: National Heart, Lung, and Blood Institute



Even if your BMI puts you in the healthy range, you may still have too much visceral fat. So, be sure to assess your risk using every method outlined in this chapter to get a clear picture of where you stand.

Getting out the tape measure

In the fight against belly fat, there is one measurement that you should become very familiar with: your waist circumference. According to the National Institutes of Health, an elevated waist circumference is associated with an increased risk of high cholesterol, high blood pressure, diabetes, and heart disease. Even if you're at a healthy body weight, having a large waistline can still significantly increase your disease risk. This is why being aware of your waist circumference, in addition to your BMI (see the preceding section), is so important.

If your BMI is normal, but your waist circumference is elevated, you still need to work to reduce your overall body fat — specifically, belly fat — to improve your health. On the other hand, if you have an elevated BMI, but your waist circumference is normal, this could mean you carry a large amount of lean muscle mass, but have reduced levels of body fat, indicating a low risk. If you're not sure about your risk, talk to your doctor.



Measuring your waist circumference isn't exactly the same as the measurements you would take for determining your clothing size. Instead, follow these steps for the most accurate waist measurement:

- 1. With your fingers, locate the top of your hipbone.**
- 2. Place a tape measure around your bare stomach, just above your upper hipbone (as shown in Figure 1-3), and check the number.**

Keep the tape measure snug, but don't pull so tight that it compresses the skin. Breathe normally and relax your abdomen — no sucking in your stomach!

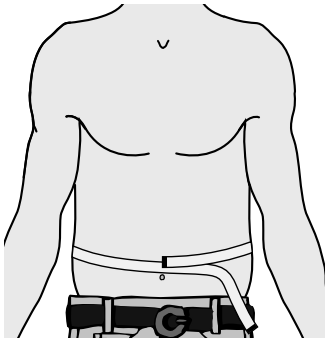


Figure 1-3:
Measuring
waist cir-
cumference.

Illustration by Wiley, Composition Services Graphics



The safest levels of visceral fat are indicated by a waist circumference of less than 35 inches for women and less than 40 inches for men.



In addition to your waist circumference, another very important measurement is *waist-to-hip ratio* (a measurement that compares the size of your hips to the size of your waist). The larger your waist is in relation to your hips, the more likely you are to have an excessive level of visceral fat, increasing your risk of disease. Waist-to-hip ratio is especially important to individuals who have a healthy BMI, because it can be an excellent way to determine if you're storing too high a percentage of your body weight in your abdomen.

To measure your waist-to-hip ratio, follow these steps:

- 1. Measure your hips at the widest part of your buttocks.**
- 2. Using the waist circumference measurement you took earlier, divide your waist measurement by your hip measurement.**

This number is your waist-to-hip ratio. For example, if you have a waist measurement of 35 inches, and a hip measurement of 42 inches, you would divide 35 by 42 and get 0.83.

Use the chart in Table 1-2 to check your level of risk based on your waist-to-hip ratio.

<i>Male Waist-to-Hip Ratio</i>	<i>Female Waist-to-Hip Ratio</i>	<i>Health Risk</i>
0.95 or below	0.80 or below	Low
0.96–1.0	0.81–0.85	Moderate
1.1 or above	0.86 or above	High

Getting a checkup

After you've determined your BMI, waist circumference, and waist-to-hip ratio (see the previous sections), you have a pretty good idea if you have too much visceral fat or are at risk for having too much. There are a few additional numbers you want to be aware of to assess your overall risk for disease. We cover those numbers in this section.



Knowing your numbers and your risks isn't meant to be scary or upsetting. Whether you have a high risk or a low risk, *knowing* your risk is important so that you can begin to make the diet and lifestyle changes necessary to improve your health for a long and happy life!

Cholesterol

Technically, you want a blood lipid panel, but if you tell your doctor you want your cholesterol tested, this is what you'll get. This measurement includes your total cholesterol, high-density lipoprotein (HDL), low-density lipoprotein (LDL), and triglycerides. Table 1-3 tells you what the numbers mean in terms of risk.

<i>Blood Lipid</i>	<i>Range</i>	<i>Risk Category</i>
Total cholesterol	Less than 170 mg/dL	Very low
	170–199 mg/dL	Low
	200–239 mg/dL	Moderately high
	240 mg/dL or above	High
LDL cholesterol	Less than 100 mg/dL	Very low
	100–129 mg/dL	Low
	130–159 mg/dL	Borderline high

<i>Blood Lipid</i>	<i>Range</i>	<i>Risk Category</i>
	160–189 mg/dL	High
	190 mg/dL or above	Very high
HDL cholesterol	60 mg/dL or above (men and women)	Very low
	40–59 mg/dL (men) or 50–59 mg/dL (women)	Low
	Less than 40 mg/dL (men) or less than 50 mg/dL (women)	High
Triglycerides	Less than 150 mg/dL	Low
	150–199 mg/dL	Moderate
	200–499 mg/dL	High
	500 mg/dL or above	Very high

Having elevated levels of total cholesterol, LDL cholesterol, and triglycerides can increase your risk for developing heart disease. On the contrary, you want to have higher levels of HDL cholesterol, which acts almost like a garbage truck in the body, scooping up cholesterol and transporting it back to the liver, where it can be removed from the body. Higher levels of HDL cholesterol protect against heart disease, as well as certain cancers.



Have your blood lipids checked annually or more often if they're not where they should be.

Blood pressure

Hypertension (high blood pressure) can increase your risk for heart disease, stroke, and even diseases of the kidney. Because you can't "feel" an elevated blood pressure, you need to have your blood pressure checked at least once a year, more often if it's high.



Blood pressure is a combination of two measures: systolic and diastolic. You don't need to know what those words mean, but just know that the systolic number is the one on top (or the first number), and diastolic is the one on the bottom (or the second number). For example, in a blood pressure of 120/80 (pronounced "120 over 80"), 120 is the systolic number and 80 is the diastolic number.

Table 1-4 shows the categories for blood pressure in adults.

Table 1-4 **Blood Pressure in Adults**

<i>Category</i>	<i>Systolic Number (The Number on Top)</i>	<i>Diastolic Number (The Number on the Bottom)</i>
Normal	Less than 120 mmHg	Less than 80 mmHg
Pre-hypertension	120–139 mmHg	80–89 mmHg
Stage 1 hypertension	140–159 mmHg	90–99 mmHg
Stage 2 hypertension	160 mmHg or above	100 mmHg or above

Source: National Heart, Lung, and Blood Institute

Blood glucose

Having an elevated blood glucose level can be an indication of insulin resistance, as well as diabetes. Because uncontrolled blood glucose levels can lead to serious health conditions, including heart disease, kidney disease, circulatory problems, and even blindness, you should be screened for high blood glucose once a year, more often if it's high.

If you find that your blood glucose level is elevated, making dietary changes, increasing physical activity, and shedding excess belly fat can significantly reduce insulin resistance and improve blood glucose control. Table 1-5 shows the normal range for fasting blood glucose.

Table 1-5 **Understanding Blood Glucose Levels**

<i>Fasting Blood Glucose Levels</i>	<i>Category</i>
Normal	70–99 mg/dL
Pre-diabetic	100–126 mg/dL
Diabetic	127 mg/dL or above

Putting it all together



Your BMI, waist circumference, waist-to-hip ratio, cholesterol, blood pressure, and blood glucose all are risk factors that can determine your odds of developing long-term health consequences, such as diabetes and heart disease. By being aware of the areas that are increasing your risk, you can start to make the dietary and lifestyle changes necessary to reduce these risks and improve your long-term health.

As you start to follow the meal plans outlined throughout this book, you'll notice your BMI, waist circumference, and waist-to-hip ratio begin to drop, and your health risks will dramatically decrease. Use Table 1-6 to analyze your current health risks, as well as to help you see the decline in health risks as you work toward achieving your flat-belly goals!

<i>Number of Health Assessment Levels above Normal</i>	<i>Health Risk</i>
0	Low
1-2	Moderate
3-4	High
5 or more	Very high

