Chapter 1

Knowing Your Numbers

In This Chapter

- Understanding why you need to know your starting point
- Determining your risk of cardiovascular disease
- Knowing what your resting heart rate and blood pressure mean about your health
- Measuring body fat and body mass index (BMI)
- Testing your heart, lungs, and endurance
- Assessing strength and flexibility
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When you go out for a walk, certain signposts mark the progress of your workout. For instance, when you walk past the yellow house on the corner of Fair and Franklin, you know that you're about a half mile into your walk. You may also measure your workout progress by how long you've been walking or by how tired you feel at certain points along your route.

To measure the progress of your *entire* fitness program, you can determine some physical and health signposts. That's why you evaluate your fitness level before you begin your walking program. By knowing where you're starting from, you can eventually see how far you've come.

This chapter contains some simple fitness tests you can do yourself. These tests are not pass or fail. Their purpose is to enlighten you about which aspects of your fitness level could stand some improvement.

The tests I've selected are specifically geared toward walkers, but certainly dozens of other evaluations are valid and can give you a reasonably accurate snapshot of your health and physical fitness level. If you find a test somewhere else that you like better than the ones I provide in this chapter, feel free to take it. Record your initial results in the personal testing scorecard (Table 1-1) at the end of this chapter. Use them as a basis of comparison and measure of progress when you compare them to your retest results a few months down the road.

You may want to photocopy the personal testing scorecard (Table 1-1) for family members and friends.

If you do not feel comfortable testing yourself, you can hire a medical and fitness professional to help you with the process. A qualified personal trainer may charge you between $50 and $250 to do a complete fitness evaluation that includes an explanation of the results and some recommendations on how to proceed with your walking and overall workout program.

The tests in this chapter are *not* designed to take the place of a thorough checkup by your doctor. No self-evaluation can ever do that.

To complete these tests, you need about 45 minutes. You also need access to a running track or a measured 1-mile route and the following materials:

- A pen or pencil
- A stopwatch or a watch with a second hand or timer
- A measuring tape
- A calculator
- An exercise mat, thick bath towel, or padded carpet

Understanding Your Risk for Heart Disease

Assessing your risk of developing cardiovascular disease is important to ensure that it's safe for you to begin exercising. By asking yourself a few simple questions and answering them as honestly as possible, you can get a reasonably accurate picture of your cardiac health risk factors.

Answer yes or no to the following questions. Jot your answers down in the margin or on a separate sheet of paper.

- Has a doctor told you that you have some form of heart disease?
- Do you *sometimes* have pains in your heart and chest?
- Do you *sometimes* feel faint or have dizzy spells?
- Has your doctor ever told you that you have high blood pressure?
- Have you gone more than a year without doing regular, vigorous exercise?
- Are you above your optimal weight? (See the section "Figuring Out Your Body Weight and Body Composition," later in this chapter.)

- Do you smoke cigarettes or have you smoked in the last two years?
- Has your doctor ever told you that you have high cholesterol?
- Are you currently taking any prescribed medications?
- Were either of your parents or any of your siblings ever diagnosed with heart disease before the age of 60?
- Has your doctor ever told you that you have high blood sugar or diabetes?
- Do you have severe arthritis or a similar limitation that may prevent you from exercising safely?
- Do you have any other condition, problem, or limitation such as chronic back pain or knee pain that may make it unsafe for you to begin an exercise program?

Answering the preceding questions is more than just a way to increase your health awareness. Take a look at the following to determine whether you should consult with your physician before proceeding with an exercise program.

- If you answer yes to one or more of the questions and you are over 35 years of age, I recommend seeing a physician for a checkup before you begin exercising.
- If you are younger than 35 and answer yes to two or more of the questions, you should also visit your doctor before you begin exercising.
- If you are younger than 35 and answered yes to no more than one of the questions, it is probably safe to begin an exercise program.
- If you are 45 years or older and haven't had a medical checkup in more than a year, you may want to go ahead and make an appointment with your doctor just to play it safe, even if you didn't answer yes to any of the questions.

The questions in this section are by no means a substitute for medical advice! Many other factors, such as your stress level or the fact that you smoke cigars, may also affect your health and ability to exercise. If you have any reason to think that you may have a condition that can limit your ability to exercise, play it safe and check in with your doctor.

I know that taking this extra step can be a pain because it delays the start of your exercise program, but it ensures that you can exercise safely and comfortably. Besides, most physicians want you to exercise. Even if your doctor finds a problem, she can usually correct it with medication or some other means and get you out and walking in no time.

Determining Your Resting Heart Rate

The average, healthy person has a resting heart rate between 60 and 90 beats per minute (bpm). It may be slower if you're in good physical condition or genetically predisposed to a low heart rate; it may be higher if you're stressed out or you recently had caffeine or smoked a cigarette. Because exercise makes your heart more efficient, your resting heart rate will probably slow down within a few months of beginning your exercise program. It's not uncommon to see drops of 5 to 30 beats per minute as a result of regular exercise.

Here's how to determine your heart rate: Place your watch so that you can look at it easily. Gently press the tips of your middle and index fingers of your right hand against the base of your left wrist directly below your thumb. You should feel a light pulsing sensation; this is your heart rate, also known as your pulse. Count how many beats you feel in one minute and record this number in Table 1-1.

You may also want to check your blood pressure, although this is difficult to do on your own. The average person has a blood pressure close to 120/80. If it is typically higher than 140/90, this may indicate some health concerns and require a trip to the doctor. A lower blood pressure reading usually means that your heart doesn't have to work very hard to pump the blood through your blood vessels.

I don't recommend those automatic blood pressure machines you find in drugstores or department stores; I have found that they give wildly varied blood pressure readings within the space of a few minutes, so I can't bring myself to trust them. You can ask your doctor, nurse, or qualified personal trainer at your gym to take your blood pressure. Or look for a clinic, health fair, or free medical screening at work or in your community.

Figuring Out Your Body Weight and Body Composition

This next group of tests helps make sense of your body weight and what it consists of. You may be amazed at how many ways you can measure your body. Consider all these measurements together to determine whether you are at your optimal weight and body composition.

Measuring your body weight

Measure your body weight on an accurate scale and record to the nearest half pound. Record your weight in Table 1-1. It's probably most accurate to

weigh yourself in the nude because the weight of clothing and shoes can vary a great deal, depending upon your outfit. When you reweigh, try to do so at approximately the same time of day. Your weight can change by as much as five pounds during the course of a day. Don't weigh yourself more than once a week.

The weight you see on the scale tells you how many pounds you are — but not much else. Even those height/weight tables developed by insurance companies don't really give you much usable or accurate information. Neither the scale nor those charts tell you what your pounds are made of.

I used to work with three women who each weighed 130 pounds and who ranged from 5 feet 6 inches to 5 feet 11 inches in height. One of them was a muscular, body-building type, another was a lithe dancer, and the third was a triathlete with a little extra padding of fat which probably contributed to her success in swim events. According to the scale, all three women were very similar. However, looking at them side by side, you really get a sense that scale weight alone does not tell the entire story.

Don't weigh yourself — or at least limit the number of times you do so — if the numbers on the scale upset you. I personally never weigh myself and haven't in nearly ten years. I go by my clothing size and my body composition numbers.

Taking measurements of your body

Use your tape measure to make the following measurements to the nearest quarter inch. Take all measurements on the right side of your body. If you want, you can have a person whom you trust to keep your secrets help you take these measurements. Record the results in Table 1-1.

- **Upper arm:** Measure the largest part of your upper arm.
- **Chest:** Measure across your back and to the front, across the center of your chest.
- **Waist:** Measure the narrowest part of your torso above the belly button and below your chest.
- **Hips:** With your legs together, measure your hips and buttocks across the widest point.
- **Thigh:** Measure the widest circumference of your upper leg.
- **Calf:** Measure the widest circumference of your lower leg.

There are no "good" measurements or "bad" measurements. Measurements are more useful than straight scale weight for tracking changes because they

indicate subtle improvements in your body composition. You may not have dropped a pound according to your bathroom scale, but you may have lost several inches on your thighs and hips.

Determining your body mass index

Body mass index (BMI) is a way of relating your height and weight to determine how fat you are.

You can figure out your BMI on your own, but you may need a calculator to perform these four easy mathematical steps. Take a deep breath — it's only arithmetic.

1. **Divide your body weight by 2.2.**

   For a 110-pound person, the calculation looks like this: 110 ÷ 2.2 = 50.

2. **Measure your height in inches and divide it by 39.4.**

   So, for instance, if you are 5 feet tall, that means you are 60 inches tall. 60 ÷ 39.4 = 1.5.

3. **Multiply your answer to Step 2 by itself.**

   For example, 1.5 x 1.5 = 2.3.

4. **Finally, take the number you arrived at in Step 1 and divide it by the number you arrived at in Step 3. Record your results in Table 1-1.**

   Your final number is an estimation of your BMI. To carry our example through, 50 ÷ 2.3 = 22. This means your BMI is approximately 22.

What does your final number mean? In 1999, the National Institutes of Health (NIH) issued the following BMI guidelines:

- **BMI of 18.5 or below:** You're considered underweight.
- **BMI between 18.5 and 24.9:** You're in the healthy range.
- **BMI between 25 and 29.9:** You're considered overweight.
- **BMI of 30 or greater:** You're considered obese.

BMI is a good though not perfect guide for determining whether you may need to lose or gain weight. For example, BMI measurements for extremely muscular athletes or pregnant women are not very accurate indicators. And, if your BMI is between 25 and 29, you shouldn't necessarily freak out about your weight. You must also consider other health factors — such as high blood pressure, whether you exercise, your smoking habits, and your family history of developing heart disease — to decide whether you need to drop a few pounds.

For those who fall within that 25 to 29 range, the NIH also recommends looking at your waist measurement. Men with a waist measurement greater than 40 and women with a waist measurement greater than 35 have a greater risk of developing heart disease than those with smaller waist measurements; if you fall into this category, you need to seriously consider losing weight for health reasons.

Measuring your waist-to-hip ratio

To determine this number, you can perform one simple mathematical step: Divide your waist measurement by your hip measurement. This number equals your waist-to-hip ratio. Here's a sample calculation to show you how easy it is.

If your waist measurement is 30 and your hip measurement is 36, you divide 30 by 36. 30 ÷ 36 = 0.83 for a waist-to-hip ratio of 0.83.

Men with a waist-to-hip ratio greater than 1 have a higher health risk. Women with a waist-to-hip ratio greater than 0.85 have a higher health risk.

If your ratio falls above these recommended numbers, you need to seriously consider losing weight. However, remember to take into account your scores for BMI and body fat percentage to help you make that decision.

Figuring out your body fat percentage

For this test, you need your hip measurement and your height in inches. Refer to the body fat chart in Figure 1-1. Place your tape measure or a ruler on the chart in a straight line between your hip measurement and your height. Draw a straight line between the two points with your pencil or pen. Your estimated body fat is the point where the line crosses the "percent fat" scale in the center. Record this number in Table 1-1 at the end of this chapter.

Your body fat percentage is an estimate of how much of your weight is fat and how much of it is lean body tissue, such as muscle, organs, and bones. If you determined from the chart in Figure 1-1 that your body fat is 20 percent, this means that an estimated 20 percent of your scale weight is fat.

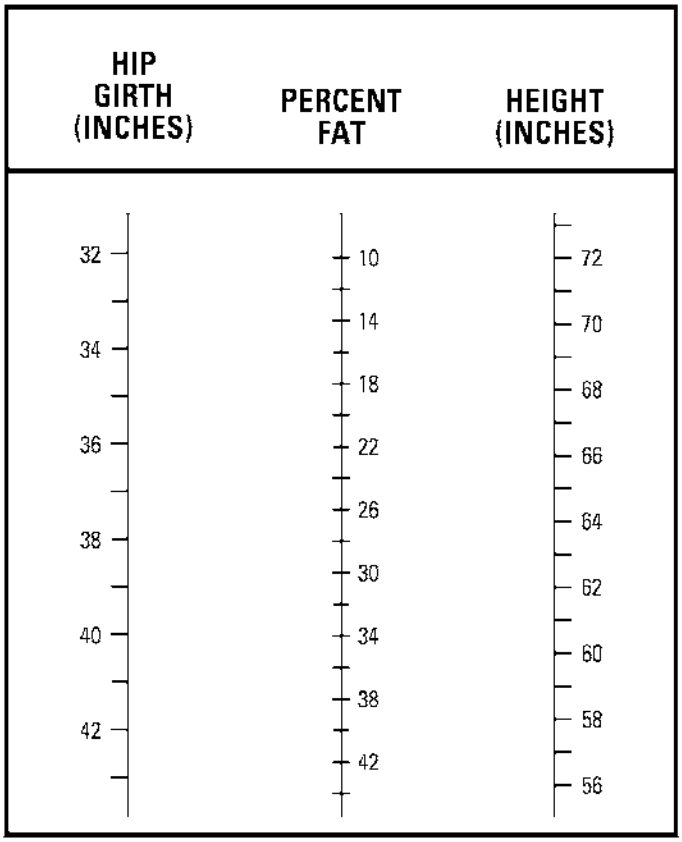

Figure 1-1: This chart can help you determine your percentage of body fat.

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Sensible Fitness, 2nd Edition
Jack W Imove, Ph D. CR-1986

Most fitness and medical experts consider body fat percentage a more accurate assessment of how fat you are than scale weight alone. However, experts have a wide range of opinions on what numbers are considered optimal. I take a conservative approach:

- **Men:** 12 to 20 percent body fat is considered optimal.
- **Women:** 16 to 26 percent body fat is considered optimal.

But just what does "optimal" mean? If you fall with the optimal range for your sex, you can be reasonably sure you're not overweight. However, this does not mean that you are thin or that you shouldn't consider losing weight. You must take into account all of the other body composition parameters that I discuss in this chapter to make that determination.

Women in particular need to be concerned with falling below optimal body fat ranges. With a body fat percentage of less than 10 percent, women can often have difficulty menstruating and are at higher risk for developing osteoporosis and other bone-degenerative diseases.

I think body fat percentage is best used as a guide to progress. When you take a body fat measurement a few months after you've been walking on a regular basis, it will more than likely go down. Because you have measured it at the starting point, you have a guidepost to compare to future measurements.

The chart method of body fat percentage measurement is a reasonably accurate way to get an estimate of body fat. If you have your body fat measured at your gym or doctor's office, the person measuring typically uses skin calipers or a bioelectrical impedance machine to do the estimation. The skin caliper method involves pinching various parts of your body with a giant tweezerlike device; the bioelectrical impedance method involves attaching small electrodes to one or more of your limbs. As long as trained and experienced professionals perform these tests, they can be extremely accurate. If you have a chance to get your body fat measured by a professional, I strongly recommend that you do so.

Measuring Your Strength and Flexibility

Lower body muscles provide most of the strength and power you need for walking, but that doesn't mean that the upper and middle body don't play their part. You will be a better walker if every muscle in your body is strong and ready to carry its share of the workload.

The following tests measure the *muscular endurance* of various areas of your body. Muscular endurance is a measure of how many times you can move a weight or perform an exercise when you're not pushing the heaviest load possible. However, I refer to the tests in this section as strength tests because this is how people talk in everyday life.

Taking stock of your upper body

One simple way to get a gauge of upper body strength is by doing a push-up test. Women should test their strength with a non-military push-up: Lie on your stomach on your mat or carpet with your palms flat on the floor just in front of your shoulders. Bend your knees so that your feet and lower legs are up off the floor. Now push yourself upward by straightening your arms and then bend your arms to lower yourself back down again. Only lower until

your upper arms are parallel with the floor; keep your head and neck up and in line with the rest of your spine. Men should do regular "military-style" pushups in which they are balanced on their palms and toes. Do as many repetitions as you can without stopping.

Skip this test if you're prone to shoulder or neck problems. If you feel sharp pain in any of your joints as you do the test, stop.

This test is a gauge of how strong your chest, shoulders, and arm muscles are. These muscles are used in walking for a powerful arm swing.

How many push-ups can you do? Here's what your answer means:

- If you can do fewer than 11 repetitions, you are below average for upper body strength.
- If you do between 12 and 22 repetitions, you are average for upper body strength.
- If you do more than 22 repetitions, you are above average for upper body strength.

Measuring the strength of your middle body

The sit-up test is a good way to measure middle body strength. Get your stopwatch. Lie on your back with your feet about hip-width apart. Place your hands behind your head or across your chest, whichever way is more comfortable. Ask someone to hold your feet to keep them stable. Do as many sit-ups as you can in 1 minute. Count only full repetitions where your shoulder blade touches the floor when you're down and your knees touch your chest when you're up.

Don't arch your back or pull on your neck. Discontinue the test if you feel sharp pains in your neck or lower back. Don't even attempt it if you have a history of lower back or neck discomfort.

You're measuring a combination of abdominal, lower back, and hip flexor strength with this test. If you want to isolate your abdominal strength, you can perform a crunch test. Crunch tests are more difficult to set up and they're easier to cheat at, so I think they're best administered by a professional. If you have no back or neck problems, the sit-up test is safe and gives you some good information about your middle body strength.

How many sit-ups did you do? Here's what your answer means:

- If you can do no more than 20 repetitions, your middle body strength is below average.
- If you can do between 21 and 30 repetitions, your middle body strength is average.
- If you can do over 31 repetitions, your middle body strength is above average.

Seeing how strong your lower body is

The wall sit test helps you quantify your lower body strength. Get your stopwatch and stand about 2 feet away from a wall with your back pressed firmly against it. Keeping your feet flat on the floor, slide down the wall and bend your knees until you are in a seated position with your thighs parallel to the floor. Time how long you can hold this wall sit position.

If you have high blood pressure or bad knees, skip this test. If your knees begin to ache while you are in the wall sit position, stop.

The wall sit measures your buttocks and thigh strength. These are your powerhouse muscles used for walking.

How long can you hold the wall sit position? Here's what your answer means:

- If you can hold the wall sit position for no more than 30 seconds, your lower body strength is below average.
- If you hold the wall sit position for between 31 and 60 seconds, your lower body strength is average.
- If you hold the wall sit position for longer than 61 seconds, your lower body strength is above average.

Figuring Out Your Flexibility

Flexibility is an important measure for walkers. Lower body flexibility is the key to how long and smooth your stride is. You can take literally hundreds of flexibility tests, and nearly all can give you important information. In this section, I recommend three flexibility tests that I think give particularly useful feedback to walkers. If you hire a trainer who asks you to perform flexibility tests in addition to these, so much the better.

Determining the flexibility of your ankles

Sit on your mat or the floor with your legs straight out in front of you so that you are looking at your feet straight on. Point and flex your right foot and then point and flex your left foot. Note how far your can flex and point each of your feet.

This test is a measure of ankle flexibility. Ankle flexibility is important so that you get an adequate push-off when you walk. Here's what the results of this test mean:

- You should be able to *point* your foot away from you so that it is at least in line with your ankle. If you can't, you have below-average ankle flexibility.
- You should be able to *flex* your foot toward you so that it is beyond perpendicular with the floor. If you can't, you have below-average ankle flexibility.

Looking at lower back and hamstring flexibility

With your legs a few inches apart, bend over and touch your toes.

If you have a bad lower back, do not do this test. If, as you are bending over, your back hurts, discontinue the test.

The toe touch test measures lower back and hamstring flexibility. You may encounter other, more sophisticated, lower back and hamstring flexibility tests, but this one is the simplest. Here's what your performance on the toe touch test means:

- If you can't touch your toes, you have below-average lower back and hamstring flexibility.
- If you can touch your toes but only with considerable effort and/or slight discomfort, you have average lower back and hamstring flexibility.
- If you can easily touch your toes, you have above-average lower back and hamstring flexibility.

Determining your hip flexor flexibility

Lie on your back on your mat. Bend your right knee into your chest while keeping your left leg straight and note how easy it is to keep your left leg completely flat along the floor. Then do the same with your left leg.

How easily you can keep your opposite leg on the floor tells you how flexible the muscles in the front of your hips are. The flexibility of these muscles, called the *hip flexors*, is essential for a nice, long walking stride. If your hip flexors are tight, you may experience back pain as you walk. Here's what your performance on this test means:

- If you can't keep your straight leg completely on the floor, you have below-average hip flexor flexibility.
- If you can keep your opposite thigh on the floor but it's a little difficult to do so, you have average hip flexor flexibility.
- If you have no trouble keeping your opposite thigh on the floor, you have above-average hip flexor flexibility.

Taking a Look at Your Walking Endurance

Your endurance, stamina, or aerobic fitness can be gauged on a bike, stair climber, or treadmill. The best, most accurate way to assess this fitness parameter is with a test that most closely mirrors your primary activity, so I suggest an evaluation specifically designed for walkers. Once again, several other well-known walking tests can give you equally accurate results.

As a walker, you can test yourself on a bike or by some means other than walking. There's a certain amount of crossover of aerobic benefits from one type of aerobic activity to another. You may not do as well on a bike test if your main workout consists of walking, but you'll certainly do better than someone who doesn't exercise at all.

To do this test, you need a precisely measured 1-mile route that is as flat as possible. You can measure a course around your neighborhood by driving the distance in your car or, better yet, go to a track: The standard running track is a measured ¼ mile around. If you choose to do this test on a track, go during a time when it's not too crowded and use the inside lane. Here's how to do the test:

1. **Warm up with 5 minutes of easy walking.**
2. **Perform a few minutes of stretching and limbering up exercises.**
3. **Grab your stopwatch and start your timer.**

4. **Walk 1 mile (four times around the track) at a brisk, steady pace.**

   You should feel like you're pushing yourself reasonably hard but not so hard that you're unable to finish the mile. (If you can't complete the mile, that's okay. The fact that you can't tells you a lot about your fitness starting point.)

5. **When you reach 1 mile, stop your timer, and cool down for 5 minutes or so by walking at a slow, easy pace.**

   You can follow this cool-down walk with an easy stretch.

Compare your walking time with the results chart below.

Fitness level	*Men*	*Women*
Below average	Couldn't finish	Couldn't finish
Below average	15 minutes, 38 seconds or longer	16 minutes, 40 seconds or longer
Average	Between 12 minutes, 42 seconds and 15 minutes, 37 seconds	Between 13 minutes, 42 seconds and 16 minutes, 39 seconds
Above average	Less than 12 minutes, 42 seconds	Less than 13 minutes, 42 seconds

Using Your Results

After you complete all the fitness assessments in this chapter, don't just write them in your personal testing scorecard in Table 1-1 and close the book! Your results are the foundation of your walking program. Along with the information from the next chapter, you can use them to help set some pinpointed, detailed goals.

You shouldn't just test yourself once and leave it at that either. I recommend retesting yourself every three months or so and comparing the results to your previous test. There is nothing more motivating than seeing how far you've come since the beginning. If you don't want to do each and every test over again, just do the ones with the results that motivate you. I don't recommend retesting yourself more often than every three months because the body typically doesn't make changes that quickly. I do recommend doing a full retest at least once a year.

Table 1-1 Personal Testing Scorecard

Subject of measurement	*First test*	*Three months*	*Six months*	*Nine months*	*One year*	*Optimal measurement*
Resting and baseline parameters						
Resting heart rate						60–90 beats per minute (bpm)
Resting blood pressure						120/80
Body weight						Dependent upon gender and height
Measurements (to the nearest ¼ inch)						
Right upper arm						
Chest						
Waist						
Hips						
Right thigh						
Right calf						
Body composition						
BMI						18.5–24.9
Waist-to-hip ratio						Men = less than 1.0; Women = less than 0.85
Body fat percentage						Men = 12–20 percent; Women = 16 to 26 percent

(continued)

Table 1-1 *(continued)*

Strength	
Push-up	Greater than 22
Sit-up	Greater than 31
Wall sit	Greater than 61
Other	
Flexibility	
Ankle	Above average
Lower back and hamstring	Above average
Hip flexor	Above average
Other	
Endurance	
Walking endurance	Men – 1 mile in less than 12:42; Women = 1 mile in less than 13:42
Other	