Lowering Your Blood Pressure

What a Harvard Expert Wants You to Know!

Aggie Casey, RN, MS, and Herbert Benson, M.D.

Expert Information On:

- The importance to managing your stress levels and how to do it
- Using the Relaxation Response to Lower Your Blood Pressure
- How to Eat and Exercise
THE
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SCHOOL GUIDE TO
LOWERING YOUR
BLOOD PRESSURE
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I, Aggie Casey, dedicate this book to my daughter, Ali Barros, and to my husband, Charlie, for their continuous love and support. I would also like to thank my parents, Agnes and Bill Casey, for believing in me. I love all of you with my life.

I, Herbert Benson, am forever grateful to my wife, Marilyn.
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Finally, we would like to thank our patients for their willingness to share their stories and for allowing us to be part of their journey toward optimal health.
Patricia didn't feel or look sick. In fact, when the trim sixty-three-year-old mother of three adult children walked into my clinic in January 2005, she was the very picture of a healthy woman—healthier, even, than many people one-third her age. She ate a balanced diet, walked three miles three times a week, and was an avid golfer and cyclist. And having recently retired from a rewarding career as a seventh-grade teacher, she now spent her days with her husband of forty-two years in the beachside town of Chatham, Massachusetts.

But Patricia did need to be concerned about her health.

She had one of the most prevalent and most threatening diseases in our culture. The only problem was she wasn't suffering any symptoms, which is how this disease, operating with assassin-like stealth, has earned the name the "silent killer." The only reason she knew she needed to become concerned was that her blood pressure readings in her physician's office were higher than they once had been. Patricia had hypertension (high blood pressure).

You're probably reading this book because you or someone you love has been diagnosed with hypertension. You're not alone. If you're an American adult, there is an almost one-in-three chance that you will develop hypertension. The incidence of the disease has risen steadily since the 1960s, and now it is estimated that 96 million Americans have it.

Like most people, you probably never saw it coming. Take Patricia, who had long known that the key to avoiding hypertension was to refrain from smoking, get regular exercise, limit alcohol use, and eat a healthy diet. Yet here she was in my office. What had gone wrong?

She had three powerful forces working against her. The first had been with her from birth: her family history. In fact, one of the leading risk factors recognized today is a close relative who also has hypertension. Patricia's mother has hypertension and takes medication for the disease at age eighty-eight.

Second, Patricia identified significant family stress over the past few years. She frequently felt frustrated and unsure how to deal with these conflicts. Persistent, unmanaged stress is also a leading risk factor for developing hypertension.

Third was a recent change that raised Patricia's (and 45 million other Americans') risk with one simple announcement. For more than twenty years her blood pressure readings had been below 140/90 mm/Hg. She assumed her blood pressure was nothing to worry about, and her doctors had confirmed that assumption. In her own words, she didn't pay an awful lot of attention to it because she was within the guidelines of the time. Then all of that changed. In 2003 the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)
reclassified blood pressures above 120–139/80–89 mm Hg as a new category called prehypertension. Experts believe this new category more accurately reflects where risk associated with high blood pressure really begins. What risk? Hypertension triples the risk of dying of a heart attack and increases the risk of a stroke sevenfold over people with normal blood pressure.

If you or someone you love has been diagnosed with hypertension, you probably want to understand the challenges that may lie ahead. But most of all, you're wondering what to do next. That's why we wrote this book. The Mind/Body Medical Institute (M/BMI) has helped thousands of patients like Patricia to lower their blood pressure, often without the use of medication.

M/BMI evolved from more than thirty years of pioneering work in the field of mind/body medicine by Herbert Benson, M.D., and his colleagues at Harvard Medical School. The relaxation response, as described by Dr. Benson in his 1975 bestselling book of the same title, is the foundation of mind/body medicine as practiced at the Institute, in conjunction with nutrition, exercise, and stress management.

Many people with hypertension and many doctors shrug off the importance of lifestyle changes, and that's too bad. Losing weight, exercising more, eating better, and learning to elicit the relaxation response can all lead to fundamental physical changes that go far beyond improving blood pressure. They also chip away at high blood sugar and high cholesterol, improve artery flexibility, and improve your physical and emotional health. No pill or combination of pills can match this.

When Patricia finished our thirteen-week lifestyle modification program, which included supervised exercise, nutrition counseling, and stress management, she had not only lowered her blood pressure to a healthy reading of 111/78 mm Hg, but also found, as you will, that the mind/body techniques she learned had crossed over into other parts of her life.

This book is for anybody who wants to learn how to lower his or her blood pressure. And the good news is you can learn how.

We'll start with a user's tour of the circulatory system and learn why the two numbers that make up your blood pressure measurement are so important. Next we will talk about lifestyle modification, including stress management, healthier eating, and physical activity. Finally, we'll pull it all together into a program that's not only simple to follow and fun to do, but that also improves total quality of life and well-being. Your heart and arteries will thank you, as will the friends and loved ones who know that you have taken charge of your future for a life of health and wellness. You can't change your family history, but you can change your approach to healthful living. It worked for Patricia, as it has for countless others, and it can work for you too.

And so, if you are ready, let's begin.
The fact that you're reading the words on this page means that hypertension has somehow touched your life. Maybe a spouse or parent has recently been diagnosed with it. Maybe you've been told that you're at risk and want to explore your options. Or maybe you have just been diagnosed. When hypertension touches someone's life—as it does in some way for almost all Americans—it can be frustrating, scary, and confusing. This book is about adopting a lifestyle modification program aimed at lowering your blood pressure. In order to do that, you should understand just what blood pressure is, what the term *high blood pressure* means, and why it's a cause for concern. This chapter is designed to lay the foundation for the lifestyle program that follows. We'll cover blood pressure basics and the different types of hypertension.

**Hypertension: An Important Update**

Imagine going to bed one evening thinking you had a perfectly normal blood pressure, only to wake up the next morning and discover that it had entered the danger zone. That's exactly what happened to 45 million Americans in the spring of 2003 when a new publication came out. What kind of publication could raise 45 million people's blood pressure? No, it wasn't a Stephen King novel or another book by Bill O'Reilly, but a report by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7). The committee announced new national guidelines that changed the definition of "normal" blood pressure.

![FIGURE 1.1 Blood Pressure and Categories of Hypertension](image)

All hypertension is high blood pressure, but not all high blood pressure is hypertension. The term *high blood pressure* covers any blood pressure above 120/80 mm/Hg, while *hypertension* refers only to pressures of 140/90 mm/Hg and above. (For people with diabetes, high blood pressure is 130/80 mm/Hg.) What's more, hypertension is divided into three levels of acuteness—prehypertension, stage I hypertension, and stage II hypertension—as shown in Figure 1.1.

Under the former guidelines, published in 1997, your blood pressure was considered normal if your systolic pressure was under 140 mm/Hg and your diastolic pressure was under 90 mm/Hg. (In
that classification, "normal" meant usual or average. It didn't, contrary to popular opinion, mean "healthy.") The new guidelines classified systolic pressures of 120–139 mm/Hg or diastolic pressures of 80–89 mm/Hg as a new category of high blood pressure called prehypertension. This means that a person's blood pressure hasn't crossed the official hypertension threshold, but it likely will over time unless corrective actions are taken.

**Blood Pressure Basics**

Performing under pressure is what your arteries were designed to do best. Though you can't see it or feel it, inside your body at this moment and at every moment of every day your heart and arteries are involved in a complex rhythm of pressure and resistance. Blood pressure is the amount of force exerted by the blood on the inside of your arteries as the blood is pumped throughout your circulatory system. Each time your heart muscle contracts, blood is pressed against the walls of the arteries and is measured as systolic blood pressure (the top number). When the heart relaxes between beats, the pressure on the artery wall eases, measured as diastolic blood pressure (the bottom number).

Your blood pressure is never constant, nor should it be. Your body continuously adjusts to the daily demands placed on it. It can make dramatic adjustments in blood pressure within seconds. A sprint for the elevator, the sound of breaking glass, or a confrontation with someone may send blood pressure soaring from an idling 130/70 mm/Hg to a racing 160/100 mm/Hg or higher.

**Understanding the Numbers**

No doubt you have had your blood pressure measured countless times. In fact, it has probably been taken every time you've visited your doctor. When your doctor tightens an inflatable cuff around your upper arm and places a stethoscope at your inner elbow (as shown in Figure 1.2), he or she is about to get a peek into the workings of your circulatory system. The cuff is inflated with air to compress the brachial artery, the major artery in the arm. The cuff is first inflated to a pressure that shuts off all blood flow to the artery. As the cuff is slowly deflated, your doctor listens (through a stethoscope placed on the artery) for two things. First, he or she will hear the sound of blood rushing back into the compressed artery, and note this number on the gauge to determine the systolic blood pressure. As the pressure in the cuff continues to be released, your doctor listens for the moment where the sounds taper off and disappear. The number at which the last beat is audible indicates the diastolic blood pressure.

A typical blood pressure reading might look something like this: 120/80 mm/Hg. That means, in this instance, that the per-

**FIGURE 1.2 Measuring Blood Pressure**
son's blood pressure is expressed as a systolic reading of 120 millimeters of mercury (Hg being the chemical symbol for mercury) and a diastolic reading of 80 millimeters of mercury. Most mercury blood pressure units have been phased out and newer non-mercury devices are readily available. Many modern instruments use a spring gauge with a round dial or a digital monitor, but even these are calibrated to give readings in mm/Hg.

An ideal blood pressure reading is 120/80 mm/Hg or lower. The higher the numbers go, the harder your heart is working to do its job. And your heart is working hard enough already. This remarkable ten-ounce muscle, about the size of your fist, beats nearly 100,000 times and circulates some 1,900 gallons of blood throughout your body each day. When the heart has to work overtime, the muscle can become enlarged, and the arteries, under the relentless pounding of the blood against the arterial walls, become rigid and narrow, potentially putting you at risk for stroke, kidney failure, and heart disease.

What the Readings Mean

You already know that the top number (systolic pressure) measures the force of blood against the arteries as the heart contracts and that the bottom number (diastolic pressure) measures arterial pressure when the heart relaxes between beats. Simply put, your blood pressure (BP) reading measures how hard your heart is working to pump blood throughout your body and also the condition of your arteries. The amount of blood [End of Sample]