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The Antioxidant Miracle

Suppose that I told you there was a pill that would keep your heart strong, your mind sharp, and your body youthful well into your seventies, eighties, nineties, and even beyond? Suppose that I told you there was a pill that could extend your life and improve your sex life? Suppose I told you there was a pill that could prevent cancer? How about a pill that could keep your skin supple and wrinkle-free?

Would you think that I was a victim of wishful thinking? A weird futurist dreaming about a drug yet to be discovered? I'm not. I am a serious mainstream scientist, and the pills I am talking about not only really exist but are readily available. They are in your neighborhood pharmacy and natural food store. Chances are you will find them on the shelves of your local grocery and discount store. You can purchase them by phone, by mail, and by e-mail on the Internet. (You may have a few on your kitchen counter already—but you're probably not taking them correctly.) But their availability doesn't make their effects any less miraculous.

I am talking about antioxidants, a family of vitamins, minerals, and other nutrients that I have been studying for the better part of my seventy years. Antioxidants are the reason I get up every morning and go to my lab at the University of California at Berkeley. Antioxidants are the reason I travel all over the world to attend scientific conferences. Antioxidants are the reason I have written hundreds of scientific articles and, now, this book. And antioxidants are the reason why, at my age, I have no plans whatsoever to slow down. My name has become so closely linked to the study of antioxidants that I have been dubbed "Dr. Antioxidant" by some of my colleagues.

Antioxidants are a group of compounds that are produced by the body and that occur naturally in many foods. Antioxidants work together in the body to maintain our health and vigor well into the late decades of life. They do this by protecting us from damage caused by free radicals, which can injure healthy cells and tissues. The body produces free radicals in the normal course of energy production, but there are also substances in our surrounding environment—certain chemicals, smoke, pollutants, solar radiation—that trigger the production of free radicals. Don't underestimate the threat free radicals pose to our health and well-being. Scientists now believe that free radicals are causal factors in nearly every known disease, from heart disease to arthritis to cancer to cataracts. In fact, free radicals are a major culprit in the aging process itself.

By controlling free radicals, antioxidants can make the difference between life and death, as well as influence how fast and how well we age. The more you understand about antioxidants and how they work, the more you will understand and appreciate the profound role they play in keeping you healthy and happy. Their role in the human body is nothing less than miraculous.

There is overwhelming scientific evidence demonstrating that those of us who eat a diet rich in antioxidants and take antioxidant supplements will live longer, healthier lives. In this book I will tell you about some of these exciting, groundbreaking studies, and I will show you how to use these discoveries to improve your life *right now*. Starting today, you can halt and even reverse many of the age-related problems that can arise—and make life so miserable—when our bodies suffer from an overabundance of free radicals and a deficit of antioxidants.

Scientists have known about the existence of antioxidants for decades,

but until very recently, we have not fully understood what they do, how they do it, and how to tap their incredible power. Thanks to work performed at the Packer Lab at the University of California at Berkeley, and in other labs around the world, we have found the answers to these questions, and we now know how to maximize and harness the lifesaving, life-extending power of antioxidants.

Introducing the antioxidant network

Until recently, scientists believed that each antioxidant worked separately in the body, independently of the others. We now know this isn't true—there is a dynamic interplay among certain key antioxidants. I refer to this interplay as the *antioxidant network* and I refer to the chemical players as the *network antioxidants*. These special network antioxidants work together in our bodies to strengthen us and protect us from disease.

Although there are literally hundreds of antioxidants, only five appear to be network antioxidants: *Vitamins C* and *E, glutathione, lipoic acid,* and *Coenzyme Q10 (Co Q10).* Vitamins C and E are not produced in the body but must be obtained through food. Glutathione, lipoic acid, and Co Q10 are produced by the body, but levels of these antioxidants decline as we age. That is why we need to supplement all of them.

In the Packer Lab, we have discovered that network antioxidants have special powers that set them apart from other antioxidants. What makes network antioxidants so special is that they can greatly enhance the power of one another. As a result, they are particularly effective in slowing down the aging process and boosting the body's ability to fight disease. The antioxidant network is a shield that protects the body against the forces that age us before our time and rob years from our lives.

Not so long ago, the diseases of aging were accepted as unfortunate but inevitable facts of life. At the turn of the last century, the average life span was a meager forty-seven years. Today no one blinks when we live into our eighties or nineties, and some scientists think that within a few generations, many of us will live well into our hundreds. You probably aren't surprised because you've seen what modern medicine, better sanitation, and improved nutrition can do to extend life span; however, you've probably also noticed that although people are living longer, too many are plagued by chronic diseases that not only hamper their ability to make the most of these added years, but sometimes even seem to make them a curse. A longer life doesn't have to be this way.

Thanks to our new understanding of antioxidants and the role of the antioxidant network, we can live not just longer, but live well, in bodies that stay healthy, strong, and vigorous, with minds that are alert and memories that are intact. I am not talking about just adding years to our lives; I am talking about adding life to our years.

We now know that the key to preventing disease and extending life is as simple as maintaining the right level and combination of antioxidants in our bodies. I call this the *antioxidant advantage*, and I will show you how it can help you to achieve long life and optimal health.

For more than three decades, the Packer Lab has been a mecca for the best and brightest researchers in the field of antioxidants from around the world. When people ask me to describe the Packer Lab, I tell them it's a lot like working in the United Nations. There are days when I walk into my laboratory and am greeted with "Good morning" in sixteen different languages. I am very proud that my laboratory has trained many of the world's finest scientists, and that today there are Packer Lab alumni in top research centers from London to Tel Aviv to Tokyo and to nearly every place in between.

I am particularly proud of my laboratory's leadership role in discovering how antioxidants work together in the body, but we are probably best known for our discovery of the special role played by a newly identified antioxidant, lipoic acid, the most versatile and powerful antioxidant in the network. Lipoic acid greatly enhances the power of all the other antioxidants in the body. For more than two decades, lipoic acid has been used safely and successfully in Europe as a treatment for complications of diabetes. Research in my laboratory has shown that lipoic acid may offer powerful protection against both stroke and heart disease. As I will be explaining later in the book, since you can't get enough lipoic acid through food alone, if you're not taking lipoic acid supplements, you're not tapping the full power of the antioxidant network.

The first time many of you may have heard about lipoic acid was when I was interviewed about my work on ABC's *World News Tonight* last year. The two-minute segment on lipoic acid generated so many calls, letters, and visits to the Packer Lab web site for more information that I recognized the need to share this lifesaving information with the public.

I have also been a pioneer in the study of vitamin E, an antioxidant that is breaking new ground nearly every day. You've probably noticed it's hard to pick up the newspaper without reading about a new way that

vitamin E promotes health. Vitamin E can protect us from such diseases as Alzheimer's disease, heart disease, and several common types of cancer. And if you have also grown accustomed to seeing advertisements in sports and fitness magazines touting the importance of antioxidants for athletes, it is because twenty years ago my lab discovered that exercise depletes the body of vitamin E and other antioxidants and that they have to be replaced if exercise is to produce the desired effects. Experiments in my lab have also produced some tantalizing results that suggest vitamin E can even extend our life span.

We have also discovered that some nonnetwork antioxidants and even some substances that are not antioxidants can enhance the effectiveness of one or more network antioxidants. These include members of the flavonoid family, a group of several thousand phytochemicals (plant-based chemicals). There are fifty different common flavonoid compounds found in fruits, vegetables, and beverages, including green tea and red wine. Selenium, a mineral that strengthens the network antioxidants, is an example of a nonantioxidant that is a true miracle maker.

There are scores of other bona fide antioxidants that do not interact with the network, but nevertheless help its mission by reducing the free radical load in the body. These helper antioxidants include members of the carotenoid family, a group of coloring agents found in foods, especially in dark-green leafy vegetables and orange and yellow fruits and vegetables.

In *The Antioxidant Miracle*, I will not only be reporting on work performed in my own lab, I will also be telling you about the work of my distinguished colleagues. Until now, these discoveries have been described mainly in scholarly books and journals written for other scientists. In *The Antioxidant Miracle,* I will be passing this groundbreaking information on to you. Scientists all over the world are investigating the role of antioxidants in extending life and preventing disease. For example:

- Are you getting sick more often than you used to? As we age, immune function declines, making us vulnerable to disease. Tufts University researchers have found that antioxidants can rejuvenate an aging immune system.
- Do you think that you have bad genes? Many of us inherit the tendency to develop cancer and other diseases. The good news is that antioxidants can "turn off" these bad genes and greatly reduce our risk of developing hereditary diseases.

- Do you feel that you're not as sharp as you used to be? Numerous studies suggest that antioxidants can prevent and perhaps even reverse age-related memory loss and mental problems.
- Do you have a child with attention deficit disorder (ADD), or do you have ADD yourself? There is growing evidence that antioxidants can improve concentration and focus in people suffering from ADD.
- Do you wake up with aches and pains? Antioxidants can relieve the symptoms of arthritis and other inflammatory conditions.
- Are you at risk for developing heart disease? Antioxidants such as vitamin E and Co Q10 are being used successfully to treat heart disease.
- Do you have brown spots and other signs of sun-damaged skin? Antioxidants can prevent and even erase these telltale signs of age while also protecting against skin cancer.

The Antioxidant Miracle will explain the science behind the miracle and show you how to make the miracle work for you.

In Parts One to Three of this book, I will review the latest scientific information on antioxidants in simple, easy-to-understand language. In Part Four, The Packer Plan—Making the Antioxidant Miracle Work for You, I will describe the Packer Plan, a comprehensive three-part program featuring:

- **An antioxidant feast** Common, everyday foods found at your local supermarket and greengrocer contain hundreds of lifesaving antioxidants. The Packer Plan will show you how easy it is to maintain your antioxidant advantage by eating the right foods.
- **Your supplement regimen** The Packer Plan offers a state-of-the-art supplement regimen that is designed to keep your body strong, your brain sharp, and your antioxidant network working at its peak. In addition to a basic supplement program that is suitable for most people, I will also be tailoring my supplement regimen to accommodate people with special needs, such as smokers, diabetics, people with a family history of cancer or heart disease, menopausal women, athletes, and even picky eaters.
- **Antioxidants for healthy, beautiful skin** The Packer Lab is the world's leading research center on antioxidants and skin. From

our research, we have learned that it is as important to replenish antioxidants on the outside as it is on the inside. The Packer Plan includes an antioxidant skin-care regimen that not only prevents skin cancer but can slow down and even reverse wrinkles, fine lines, and other signs of aging.

Can you get enough antioxidant protection from food alone?

Since all the network antioxidants can be found in food, you may wonder why I recommend that you also take supplements. Eating an antioxidant-rich diet is an important part of the Packer Plan, but it is virtually impossible to get the optimal amount of antioxidants through food alone. For example, the Packer Plan recommends taking 500 I.U. of vitamin E daily. In order to get 500 I.U. of vitamin E from food alone, you would have to eat more than 100 pounds of broiled liver or 125 tablespoons of peanut oil—or you could take a vitamin E supplement, as I advise.

The Antioxidant Miracle can change and extend your life. More than 70 percent of Americans will die prematurely from diseases caused by or compounded by deficiencies of the antioxidant network. Thanks to the antioxidant advantage, these conditions can be prevented, controlled, and in some cases even cured. People who take even one antioxidant supplement daily can significantly reduce their risk of heart disease and prostate cancer. Can you imagine the benefits that result from supplementing the entire antioxidant network? In *The Antioxidant Miracle,* I will be showing you how to do that, and explaining why the benefits will astonish you.

As we move into the new millennium, the Antioxidant Miracle makes it possible for each of us to have greater control over our health, and ultimately our destiny, than we ever had before. We now have the power to prevent and perhaps even eradicate many of the degenerative diseases that were once considered an inevitable part of aging.

This is a true miracle.