



**EARL MINDELL'S**

**VITAMIN**

**BIBLE**

**For the**

**Twenty-First**

**Century**



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Vitamin Bible  
for the  
Twenty-First  
Century

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*Earl Mindell*

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*This book is dedicated to  
Gail, Alanna, Evan,  
our parents, families, and friends  
and to  
the future*

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The first wealth is health.

*Ralph Waldo Emerson*  
*"The Conduct of Life"*

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## *A note to the reader about this revised millennium edition*

**T**here is no longer any doubt that numerous life-threatening diseases can be prevented and chronic illnesses alleviated, possibly cured, through optimal nutrition. There is also no longer any doubt that it is easier, cheaper, quicker, and smarter to prevent an illness than to treat it—and that the person who can do the most for your health is you!

For two decades, *The Vitamin Bible*—with its now well-known numbered sections for instant cross-reference—has been relied on by millions of people around the world as the easily accessed source of clear, uncomplicated nutritional information. Since its last revision, the world of vitamins and supplements has mushroomed, making hundreds of new products available and opening up exciting nutritional options for self-health. My goal in this fully revised millennium edition is to empower *you* to make the most of them!

I've added new personalized regimens and updated others with the latest available supplements—including nutraceuticals, which have been shown to provide effective medical health benefits in the treatment of a wide variety of common ailments and diseases. (There is also an at-a-glance reference

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chapter to simplify your selection of these new supplements.) Along with bringing the guidelines and cautions for all vitamins and minerals up to date, based on recent nutritional and medical studies, I've added more than three dozen sections to the book to cover phytochemicals, plant hormones, necessary antioxidants, the soy phenomenon, and the latest in natural alternatives to prescription drugs. I've greatly expanded the herb sections and added homeopathic remedies as well as a guide to aromatherapy and essential oils. In addition, the chapter on locating alternative and nutritionally oriented health practitioners now includes web sites, enabling readers worldwide to benefit from it.

Because this is not the sort of book that is generally read cover-to-cover, I suggest that you make it a point to check out the "questions" section at the end of the chapters. Much new information appears there—including the latest on preventing osteoporosis, treating carpal tunnel syndrome, protecting yourself against cancer, invigorating your sex life, and more.

#### ONE IMPORTANT REMINDER

The regimens throughout this book are recommendations, not prescriptions, and are not intended as medical advice. Before starting any new program, check with your physician or a nutritionally oriented doctor (see section 342), especially if you have a specific physical problem or are taking any medication.



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# Preface

**T**his book is written for *you*—the untold legions of men and women who are forever trying to fit yourselves into statistical norms only to find that the charts are designed for some mythical average person who is taller, shorter, fatter, skinnier, less or more active than you'll ever be. It is a guide to healthy living for individuals, not statistics. Wherever feasible I have given personal advice. For this, I believe, is the only way to lead anyone to optimal health, which is the purpose of this book.

In these pages I have combined my knowledge of pharmacy with that of nutrition to best explain the confusing, often dangerous, interrelation of drugs and vitamins. I've attempted to personalize and be specific so as to eliminate much of the confusion about vitamins that has arisen with generalizations.

In using the book you will occasionally find that your vitamin needs fall into several different categories. In this case, let common sense dictate the necessary adjustment. (If you are already taking B6, for example, there's no need to double up on it unless a higher dosage is called for.)

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The recommendations I've made are not meant to be prescriptive but can easily be used as flexible programs when working with your doctor. No book can substitute for professional care.

It is my sincere hope that I have provided you with information that will help you attain the longest, happiest, and healthiest of lives.

EARL L. MINDELL, R.PH., PH.D.

# 1

## *Getting into vitamins*

### 1. Why I Did

My professional education was strictly establishment when it came to vitamins. My courses in pharmacology, biochemistry, organic and inorganic chemistry, and public health hardly dealt with vitamins at all—except in relation to deficiency diseases. Lack of vitamin C? Scurvy. Out of B1? Beriberi. Not enough vitamin D? Rickets. My courses were the standard fare, with the usual references to a balanced diet and eating the “right foods” (all unappetizingly illustrated on semiglossy charts).

There were no references to vitamins being used for disease prevention or as ways to optimum health.

Both of us were working fifteen hours a day, but only <i>I</i> looked and felt it.
--

In 1965 I opened my first pharmacy. Until then I never realized just how many drugs people were taking, not for illness but simply to get through the day. (I had one regular patron who had prescriptions for pills to supplant virtually all

his bodily functions—and he wasn't even sick!) My partner at the time was very vitamin-oriented. Both of us were working fifteen hours a day, but only *I* looked and felt it. When I asked him what his secret was, he said it was not secret at all. It was vitamins. I realized what he was talking about had very little to do with scurvy and beriberi and a lot to do with me. I instantly became an eager pupil, and have never since regretted it. He taught me the benefits that could be reaped from nature's own foods in the form of vitamins, how B complex and C could alleviate stress, how vitamin E would increase my endurance and stamina, and how B12 could eliminate fatigue. After embarking on the most elementary vitamin regimens I was not only convinced. I was converted.

Suddenly nutrition became the most important thing in my life. I read every book I could find on the subject, clipped articles and tracked down their sources, dug out my pharmacy school texts and discovered the amazingly close relationship that did indeed exist between biochemistry and nutrition. I attended any health lecture I could. In fact, it was at one such lecture that I learned of the RNA-DNA nucleic complex and its age-reversing properties. (I have been taking RNA-DNA supplements since then, as well as SOD—superoxide dismutase. Today, because of these, most people guess me to be five to ten years younger than I am.) I was excited about each new discovery in the field, and it showed.

A whole new world had opened up for me and I wanted others to share it. My partner understood completely. We began giving out samples of B complex and B12 tablets to patrons, suggesting they try decreasing their dependency on tranquilizers, pep pills, and sedatives with the vitamins and vitamin-rich foods.

The results were remarkable! People kept coming back to tell us how much better and more energetic they felt. Instead of the negativity and resignation that often accompanies drug therapies, we received overwhelming positiveness. I saw a woman who had spent nearly all her young adult life on Librium, running from doctor to therapist and back again, become a healthy, happy, drug-free human being; a sixty-year-old architect, on the brink of retirement because of ill health, regain his well-being and accept a commission for what is now one of the foremost office buildings in Los Angeles; a middle-aged pill-dependent actor kick his habit and land a sought-after supporting role in a TV series that still nets him handsome residuals.

By 1970 I was totally committed to nutrition and preventive medicine. Seeing the paucity of knowledge in the area, I went into partnership with another pharmacist for the prime purpose of making natural vitamins and accurate nutrition information available to the public.

Today, as a nutritionist, lecturer, and author, I'm still excited about that world that opened up to me over thirty years ago—a world that continues to grow with new discoveries daily—and I'm eager to share it.

## 2. What Vitamins Are

We must obtain vitamins from natural foods, or dietary supplements in order to sustain life.

When I mention the word *vitamin*, most people think *pill*. Thinking *pill* brings to mind confusing images of medicine and drugs. Though vitamins can and certainly often do the work of both medicine and drugs, they are neither.

- Quite simply, vitamins are organic substances necessary for life. Vitamins are essential to the normal functioning of our bodies and, save for a few exceptions, cannot be manufactured or synthesized internally. Necessary for our growth, vitality, and general well-being, they are found in minute quantities in all natural food. We must obtain vitamins from these foods or from dietary supplements.

What you have to keep in mind is that supplements, which are available in tablet, capsule, liquid, powder, spray, patch, and injection forms, are still just food substances, and, unless synthetic, are also derived from living plants and animals.

- It is impossible to sustain life without *all* the essential vitamins.

## 3. What Vitamins Are Not

Vitamins are neither pep pills nor substitutes for food.

A lot of people think vitamins can replace food. They cannot. In fact, vitamins cannot be assimilated without ingesting food. There are a lot of erroneous beliefs about vitamins, and I hope this book can clear up most of them.

- Vitamins are not pep pills and have no caloric or energy value of their own.
- Vitamins are not substitutes for protein or for any other nutrients, such as minerals, fats, carbohydrates, water—or even for each other!
- Vitamins themselves are not the components of our body structures.
- You cannot take vitamins, stop eating, and expect to be healthy.

#### 4. How They Work

If you think of the body as an automobile's combustion engine and vitamins as spark plugs, you have a fairly good idea of how these amazing minute food substances work for us.

Vitamins regulate our metabolism through enzyme systems. A single deficiency can endanger the whole body.

Vitamins are components of our enzyme systems which, acting like spark plugs, energize and regulate our metabolism, keeping us tuned up and functioning at high performance.

Compared with our intake of other nutrients like proteins, fats, and carbohydrates, our vitamin intake (even on some megadose regimens) is minuscule. But a deficiency in even one vitamin can endanger the whole human body.

#### 5. Should You Take Supplements?

"Everyone who has in the past eaten sugar, white flour, or canned food has some deficiency disease. . . ."

Since vitamins occur in all organic material, some containing more of one vitamin than another and in greater or lesser amounts, you could say that if you ate the "right" foods in a well-balanced diet, you would get all the vitamins you need. And you would probably be right. The problem is, very few of us are able to arrange this mythical diet. According to Dr. Darnel T. Quigley, author of *The National Malnutrition*, "Everyone who has in the past eaten processed sugar, white flour, or canned food has some deficiency disease, the extent of the disease depending on the percentage of such deficient food in the diet."

Because most restaurants tend to reheat food or keep it warm under heat lamps, if you frequently eat out you run the risk of vitamin A, B1, and C deficiencies. (And if you're a woman between the ages of 13 and 40, this sort of work-saving dining is likely to cost you invaluable calcium and iron.)

Most of the foods we eat have been processed and depleted in nutrients. Take breads and cereals, for example. Practically all of them you find in

today's supermarkets are high in nothing but carbohydrates. "But they are enriched!" you say. It's written right on the label: *Enriched*.

Enriched? Enrichment means replacing nutrients in foods that once contained them but because of heat, storage, and so forth no longer do. Foods, therefore, are "enriched" to the levels found in the natural product before processing. Unfortunately, standards of enrichment leave much to be desired nutritionally. For example, the standard of enrichment for white flour is to replace the twenty-two natural nutrients that are removed with three B vitamins, vitamin D, calcium, and iron salts. Now really, for the staff of life, that seems a pretty flimsy stick.

I think you can see why my feeling about taking supplements is clear.

## 6. What Are Nutrients?

Six important nutrients

They're more than vitamins, though people often think they are the same thing.

Carbohydrates, proteins (which are made up of amino acids<sup>1</sup>), fats, minerals, vitamins, and water are all nutrients—absorbable components of foods—and necessary for good health. Nutrients are necessary for energy, organ function, food utilization, and cell growth.

## 7. The Difference Between Micronutrients and Macronutrients

Micronutrients, like vitamins and minerals, do not themselves provide energy. The macronutrients—carbohydrates, fat, and protein—do that, but only when there are sufficient micronutrients to release them.

With nutrients, less is often the same as more.

The amount of micronutrients and macronutrients you need for proper health is vastly different—but each is important. (See section 72 for The Protein-Amino Acid Connection.)

<sup>1</sup>See section 72

## 8. How Nutrients Get to Work

The body simplifies nutrients in order to utilize them.

Nutrients basically work through digestion. Digestion is a process of continuous chemical simplification of materials that enter the body through the mouth. Materials are split by enzymatic action into smaller and simpler chemical fragments, which can then be absorbed through walls of the digestive tract—an open-ended muscular tube, more than thirty feet long, which passes through the body—and finally enter the bloodstream.

## 9. Understanding Your Digestive System

Knowing how your digestive system works will clear up, right at the start, some of the more common confusions about how, when, and where nutrients operate.

### *Mouth and Esophagus*

Digestion begins in the mouth with the grinding of food and a mixture of saliva. An enzyme called ptyalin in the saliva already begins to split starches into simple sugars. The food is then forced to the back of the mouth and into the esophagus, or gullet. Here is where peristalsis begins. This is a kneading “milking” constriction and relaxation of muscles that propels material through the digestive system. To prevent backflow of materials, and to time the release of proper enzymes—since one enzyme cannot do another enzyme’s work—the digestive tract is equipped with valves at important junctions.

The tiny valve at the end of your esophagus opens long enough for chewed-up particles to enter the stomach. Occasionally, especially after eating, this valve relaxes—which is what enables you to belch. But a relaxed valve can also allow the acid from your stomach to be pushed back up into the esophagus, causing what’s known as gastroesophageal reflux disease (GERD)—better known to those who experience it as heartburn. (See section 228.)

### *Stomach*

This is the biggest bulge in the digestive tract, as most of us are well aware. But it is located higher than you might think, lying mainly behind the lower ribs, not under the navel, and it does not occupy the belly. It is a flexible bag enclosed by restless muscles, constantly changing form.

- Virtually nothing is absorbed through the stomach walls except alcohol.



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