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## External and Inherited Cardiovascular Risks

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**Dr. Rath's Cellular Health Recommendations  
for Prevention and Adjunct Therapy**

- **Unhealthy Diet**
- **Smoking**
- **Stress**
- **Hormonal Contraceptives**
- **Diuretic Medication**
- **Pharmaceutical Drugs**
- **Dialysis**
- **Surgery**
- **Inherited Risk Factors for  
Cardiovascular Disease**

## Unhealthy Diet

The basis of any natural cardiovascular health program is a healthy diet. For many generations, the diets of our ancestors shaped the metabolism of our bodies today. By understanding our ancestors' diets, we have learned what is best for our bodies now. Their diets were rich in cereal, fruits, vegetables and other plant nutrition high in fiber and vitamins. They ate considerably less fat and sugar than we do today. Conversely, the average diet in industrialized countries imposes a heavy metabolic burden on our bodies. Certain inherited disorders put our bodies at further risk.

My Cellular Health recommendations have been shown to optimize metabolism. This is particularly important for fat metabolism in our bodies. My nutrient program can help you to:

- **Lower cholesterol production in your body**
- **Optimize the metabolism of fat molecules in your cells**
- **Optimize the elimination of fat from your body**
- **Protect fat molecules from oxidation**

It is important to understand that certain vitamins are literally used up in the degradation process of these fat molecules. For every molecule of cholesterol, whether it is produced in the body or comes from the diet, our bodies use up one molecule of vitamin C in an enzymatic reaction in the liver.

In this way, high cholesterol and triglyceride levels can contribute to chronic vitamin depletion in the body. Thus, it is important to understand that an increased cardiovascular risk is not primarily the result of too many fat molecules in the diet, but is primarily due to the systematic depletion of the vitamin reserves in our bodies from an overburdened fat metabolism. As a consequence of chronic vitamin depletion, the artery walls are weakened and cardiovascular disease develops.

Besides too much fat, there are other dangers in our diets. Residues from herbicides, pesticides and chemical preservatives are present in essentially every meal we eat. These toxic substances have to be detoxified in our liver. Vitamin C and other components of my Cellular Health recommendations are essential cofactors for the detoxification of these substances in our bodies.

### **My recommendations:**

Eat a prudent diet. Watch your body weight and exercise regularly. A healthy diet is rich in plant nutrition and contains abundant vitamins and fiber substances. Try to avoid consuming too much fat and sweetened food. Above all, avoid chronic depletion of your body's vitamin reserves by following my Cellular Health recommendations on a daily basis.

## **Smoking**

While it is known that smoking dramatically increases the risk for cardiovascular disease, the underlying reason is often unclear. Cigarette smoke contains millions of free radicals, which are aggressive molecules that damage the cells of our blood vessels and other organs and accelerate biological rusting. Free radicals and other toxic substances in cigarette smoke reach the bloodstream via the lungs. These noxious substances can damage the blood vessel pipeline along its entire length of 60,000 miles.

In the body's defense against these aggressive molecules, antioxidants are used up. Among all antioxidants, vitamin C is the first one to be destroyed. With the body's vitamin reserves depleted, cardiovascular disease starts in the blood vessel system — just as in early scurvy.

Now we understand why atherosclerosis in smokers is not limited to the coronary arteries and why damage occurs in the arteries and capillaries throughout the body. "Smoker's foot" is typical, requiring toes or a foot to be amputated.

My Cellular Health recommendations include numerous antioxidants, which are able to neutralize free radicals contained in cigarette smoke and help prevent damage to the artery wall and other body tissues.

### **My recommendations:**

If you still smoke, it is worth the effort to stop. Perhaps this chapter will help you become aware of how much damage you actually cause in your body by smoking. For smokers and ex-smokers, my recommendation is the same: optimize your daily intake of natural antioxidants, preferably in the form of my Cellular Health recommendations.

## **Stress**

Chronic physical and psychological stress increases the risk for cardiovascular disease. What is the underlying biochemical mechanism for this phenomenon?

During physical or emotional stress, the body produces high amounts of the stress hormone adrenaline. For every molecule of adrenaline produced, the body needs one molecule of vitamin C as the catalyst, and these molecules are destroyed in this process. Thus, long-term physical or emotional stress can lead to a severe depletion of the body's reservoir of vitamin C. If vitamin C is not supplemented in the diet, the cardiovascular system is weakened and atherosclerosis develops.

These facts also explain why spouses frequently die soon one after another. The loss of a partner results in long-term emotional stress and fast vitamin depletion in the body, thereby increasing the risk for a heart attack. We have to understand that it is not the emotional stress itself that causes the heart attack, rather, it is the biochemical consequence of the depletion of the vitamin reserves in the body.

**My recommendations:**

Try to find time to relax. Schedule time to unwind just as you schedule your professional appointments. In the case of severe emotional problems, you may also benefit from professional consultation. Irrespective of these steps, make sure that you supplement your body's reservoir with vitamins and other components of my Cellular Health recommendations.

## **Hormonal Contraceptives and Estrogen Replacement Therapy**

Long-term intake of estrogen and other hormones — both as hormonal contraception and hormone replacement therapy during menopause — cause a depletion of vitamins and other cellular nutrients in the body. This is the reason why women taking these hormones have an increased risk for heart attacks, strokes and other forms of cardiovascular disease.

Several studies show that women taking hormonal contraceptives (“the Pill”) significantly increase their risk for cardiovascular disease. In 1972, Dr. Briggs reported in the scientific journal *Nature* that women taking hormonal contraceptives had significantly lower vitamin C blood levels than normal. In another study, Dr. Rivers confirmed these results and concluded that vitamin C depletion was associated with the estrogen hormone. The fact is that long-term use of hormonal contraceptives decreases the body pool of vitamin C and other essential nutrients, such as B vitamins and calcium. Thus, it is not the birth control pill itself that increases the risk for cardiovascular disease, but the associated depletion of the vitamin body pool, which weakens the blood vessel wall.

It came as no surprise that the largest clinical study designed to show the possible benefits of hormone replacement therapy conducted in more than 16,000 women had to be prematurely stopped because of the significantly increased risk for heart attacks, thrombosis and other complications.

## My recommendations:

If you have been taking hormonal birth control pills or have undergone hormone replacement therapy, make sure that you start following my Cellular Health recommendations to re-supplement your body's vitamin pool and prevent its future depletion.

## Pharmaceutical Drugs

Almost all the prescription drugs currently taken by millions of people lead to a gradual depletion of vitamins and other essential cellular nutrients in the body. Drugs are generally synthetic, non-natural substances that we absorb in our bodies. Our bodies recognize these synthetic drugs as “toxic,” just like any other non-natural substance.

Thus, all synthetic drugs have to be “detoxified” by the liver in order to eliminate them from our bodies. This detoxification process requires vitamin C and other cellular nutrients as cofactors. Many of these essential nutrients are used up in biological (enzymatic) reactions during this detoxification process. One of the most common ways for eliminating drugs from our bodies is called “hydroxylation.” The strongest “hydroxylating agent” in our bodies is vitamin C, which is literally destroyed during this detoxification process.

Thus, long-term use of many synthetic prescription drugs leads to a chronic vitamin depletion in the body, a form of early scurvy and the onset of cardiovascular disease.

Another way in which certain prescription drugs, such as the cholesterol-lowering agent “Cholestyramine,” contribute to vitamin depletion is their binding to vitamins in the intestine. This prevents optimum absorption of vitamins from the digestive tract into the bloodstream and body.

Prescription drugs can also deplete the body's reservoir of certain essential nutrients by interfering with the natural production of these essential nutrients in the body. "Lovastatin," "Pravastatin" and other cholesterol-lowering drugs in the statin category inhibit the production of cholesterol in the cells of the body. Unfortunately, they also decrease the production rate of important natural molecules, such as coenzyme Q-10 (ubiquinone).

Karl Folkers, M.D., of the University of Texas at Austin, reported that heart failure patients with low baseline coenzyme Q-10 levels could experience life-threatening cardiovascular complications when taking these cholesterol-lowering drugs because of a decrease of coenzyme Q-10 in the body.

### **Diuretic Drugs**

Taking diuretic drugs can significantly increase your risk for cardiovascular disease. Diuretics flush not only water from the body, but also water-soluble vitamins and other essential nutrients. I described this mechanism in detail in Chapter Five. The importance of regular supplementation of these vitamins and other essential nutrients in patients taking diuretics cannot be overemphasized.

### **My recommendations:**

If you are taking any prescription drugs, I recommend that you begin immediately with my Cellular Health recommendations. If you are on diuretic medication, the daily supplementation of water-soluble vitamins, minerals and other essential nutrients is imperative. Follow the recommendations in this book, and inform your doctor about it.

## Dialysis

Several investigations have shown that patients undergoing long-term dialysis have an increased risk of cardiovascular disease. This is not surprising, since dialysis eliminates not only the body's waste products from the blood, but also many vitamins and other essential nutrients. If these essential nutrients are not resupplemented, chronic dialysis will lead to a gradual depletion of water-soluble vitamins and other essential nutrients throughout the body, thereby triggering atherosclerosis, heart failure, irregular heartbeat or other forms of cardiovascular disease.

### **My recommendations:**

If you are undergoing dialysis, you should immediately start following my Cellular Health recommendations. If you know a dialysis patient, please make sure that you share the information in this book with them; you could help prolong a life.

## Surgery

Patients undergoing an operation should make sure that the cells of their bodies are optimally supplied with vitamins and other cellular nutrients. Each operation results in extraordinary physical and psychological stress for the patient. Preparation for the operation, the operation itself and the healing process result in high stress for several weeks, and can lead to serious vitamin depletion in your body at its time of greatest need.

Moreover, each operation is associated with damage to body tissue. The speed at which the operation wound heals is directly related to the rate at which collagen and other connective tissue molecules are formed to heal it. Vitamin C and other components of my Cellular Health recommendations are your best natural option for optimizing the production of collagen molecules and speeding up the healing phase after an operation.



This nutrient program also helps to protect against oxidative damage during operations. A variety of surgical procedures require external (extra-corporal) circulation. During a bypass operation, the heartbeat is stopped and blood circulation is maintained by a heart-lung machine. During this external circulation, the patient's blood is artificially enriched with oxygen. High concentrations of oxygen can lead to tissue damage in the artery walls and other body tissues (reperfusion injury).

My Cellular Health recommendations are rich in antioxidants and can minimize the risks of oxidative damage during an operation. Taken before, during and after hospitalization, these cellular nutrients help to prevent nutrient depletion and the damage associated with it. For this reason, leading medical schools are now routinely recommending vitamin supplementation to their surgery patients.

The following table summarizes some of the studies with specific components of my Cellular Health recommendations in decreasing different risk factors for cardiovascular disease:

Depletion of Cellular Nutrients	Reference
Blood Fats	Ginter, Harwood and Sokoloff
Smoking	Chow, Halliwell, Lehr and Riemersma
Stress "The Pill"	Levine Briggs and Rivers
Dialysis	Blumberg
Prescription Drugs	Halliwell and Clemetson

## Inherited Risk Factors for Cardiovascular Disease

I am frequently asked whether these Cellular Health recommendations can also help decrease the risk of inherited risk factors. In many cases, the answer is “yes.” Besides the external risk factors discussed in the previous section, the inherited, or genetic, risks constitute the other large group of cardiovascular risk factors.

Everyone has heard the statement, “Heart disease runs in our family.” Members of these families frequently die in the fourth or fifth decade of their lives. The causes of these early deaths are, at least in part, caused by abnormal genes (molecules of inheritance), which are passed on from generation to generation in that family. Earlier in this book, I described two of the most frequent genetic risk factors — inherited disorders of fat metabolism (high cholesterol, or hypercholesterolemia) and inherited disorders of sugar metabolism (diabetes).

What is important to understand is that this genetic risk is not a death sentence for anyone. The genetic deficiency generally results in an impaired metabolic function at one location or another in our cellular software program. In most cases, this genetic impairment can be compensated for by an increased intake of essential nutrients. As we already know, vitamins and other essential nutrients are cellular biological catalysts, and they are able to speed up impaired biochemical reactions.

It is, then, no surprise that vitamins and other essential nutrients have already been shown to have profound health benefits in patients with genetic disorders.

The following table provides a list of inherited disorders. Patients with these disorders can benefit from following my Cellular Health recommendations.

If you know anyone with one of the following inherited diseases, please introduce the information in this book to them. As you will see from the histories of Alzheimer's and lupus erythematosus patients on the following pages, these patients greatly benefited from following my Cellular Health recommendations. This is even more important considering the fact that conventional medicine has no answers to these serious health problems.

**Patients With the Following Inherited Disorders  
Should Follow Dr. Rath's Cellular Health Recommendations**

- *Diabetes*
- *Homocystinuria*
- *Alzheimer's Disease*
- *Neurofibromatosis*
- *Cystic Fibrosis*
- *Lupus Erythematosus*
- *Scleroderma*
- *Muscular Dystrophy*
- *Parkinson's Disease*
- *Multiple Sclerosis*
- *Addison's Disease*
- *Amyloidosis*
- *Morbus Cushing's Syndrome*
- *Down's Syndrome*
- *Rheumatoid Arthritis*
- *Connective Tissue Disorders*

## How Dr. Rath's Cellular Health Recommendations Can Help Decrease Inherited Cardiovascular Risks

Let's take diabetes, for example. With this disease, a genetic defect results in too little production or cellular availability of the insulin hormone. The clinical consequences are discussed in detail in Chapter Seven. Although my Cellular Health recommendations cannot repair defective genes, they can help prevent, or at least delay, the development of diabetic cardiovascular complications.

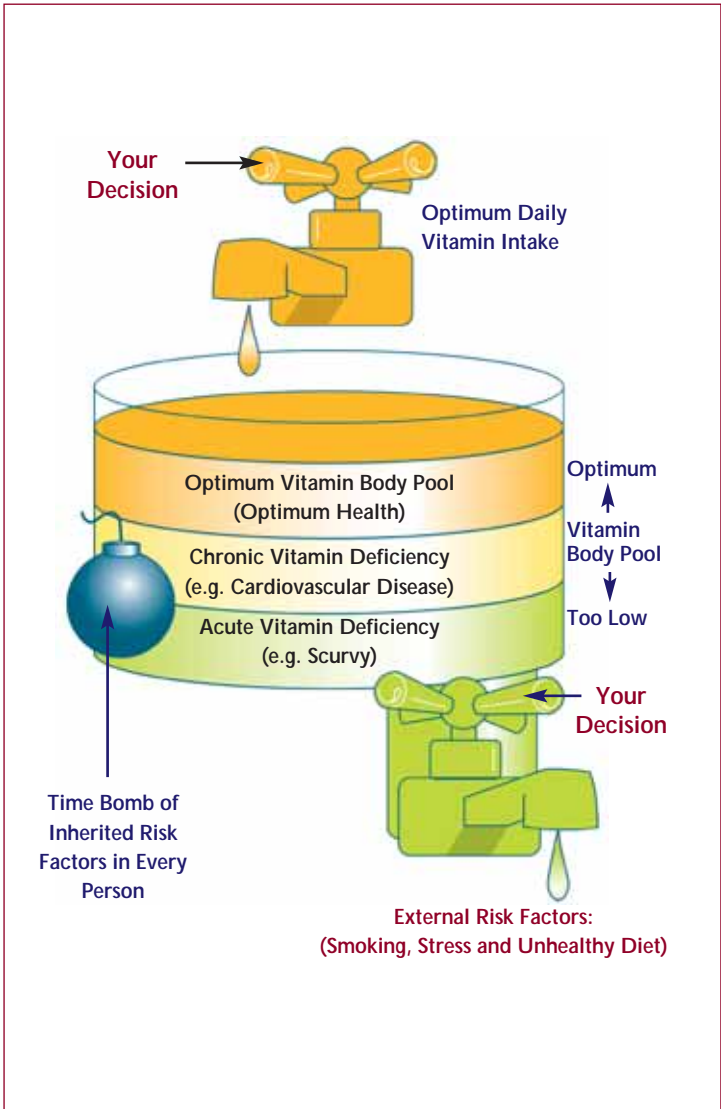
In the adjacent figure, the defective gene is symbolized as a time bomb. My Cellular Health recommendations cannot make this time bomb disappear. However, they can contribute to defusing it and preventing an "explosion" in the form of a disease appearing.

As documented in this book, for diabetes, cholesterol disorders, Alzheimer's disease, lupus erythematosus and other conditions, my Cellular Health recommendations are an effective therapeutic approach for reducing risk from inherited disorders, and particularly, the development of cardiovascular complications.

The picture on the opposite page summarizes the main factors contributing to your personal cardiovascular risk. Inherited risk factors plus external risk factors determine your overall risk for cardiovascular disease by gradually depleting your body's reservoir of essential nutrients. Most internal and external risk factors are effectively neutralized by an optimum intake of vitamins and other essential nutrients.

You can reduce your cardiovascular risk with two measures:

- Minimizing your external risk factors, such as smoking and diet
- Increasing your daily intake of vitamins and other cellular nutrients



*Maintaining an optimum body pool of cellular nutrients is the key to minimizing inherited cardiovascular risk and enjoying optimum health.*

## How Dr. Rath's Cellular Health Recommendations Can Help Patients With Alzheimer's Disease

Alzheimer's disease is a degenerative condition that leads to the gradual impairment of brain function. Conventional medicine has no therapy for this serious health problem.

*Dear Dr. Rath:*

***My father, who is 84, has Alzheimer's disease. About two months ago, his caregivers attended an Alzheimer's seminar at a nursing home. The seminar reported that some patients had been put on vitamin supplements, which had resulted in improved memory for several patients. We compared ingredients and decided that your cardiovascular vitamin program offered more than what was used at the nursing home.***

***My father has been on this program for two months, and we cannot believe the improvement. His short-term memory is improving, and we can carry on conversations with him again. He is even showing some problem-solving capabilities again.***

*I know these improvements are not measurable from a "pure scientific perspective," but to us it's a blessing to see improvement rather than just deterioration from this terrible disease.*

*On behalf of my father and our family, thank you for your cardiovascular health program.*

*Yours truly,  
D.C.*

## How Dr. Rath's Cellular Health Recommendations Can Help Patients With Lupus Erythematosus

Lupus erythematosus is a so-called “autoimmune” disease. It can lead to the inflammation, hardening and, eventually, failure of many organs in the body. Conventional medicine has no therapy for this serious health problem.

*Dear Dr. Rath:*

*I was very impressed with your research, and I was particularly interested in your theory of many degenerative diseases being related to long-term nutritional deficiencies because **my sister suffered so much from lupus erythematosus disease**. She was diagnosed with it in 1973, and since that time she has been hospitalized more times than I can remember, and has **suffered from phlebitis (inflammation of the veins) shingles, ulcerative colitis (inflammation of the bowel), and her vision has steadily deteriorated.***

*She is 44 years old, married and the mother of 3 children. In 1989, a routine pap smear showed severe inflammation and pre-cancerous tissue. Her doctors tried to treat this condition with drugs first and later with “laser burn” treatments. This reduced the number of cells somewhat, but did not end the problem. A subsequent pap smear showed that the number of cells was increasing, and they performed a complete hysterectomy. **Even after the hysterectomy, she still had severe inflammation and a large number of pre-cancerous cells.***

***Other treatments had been also ineffective. Basically, her doctors didn't know what else to try.***

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*(cont. on page 206)*

(cont. from page 205)

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***In November of 1994, she began following your vitamin program along with a fiber drink.*** Even though she was somewhat skeptical, she felt that she had nothing to lose. In July of 1995 (after 8 months on your program), she had another pap smear test taken. What a tremendous feeling of joy she must have felt when her doctor told her that her smear came back ***perfectly normal with no inflammation and no pre-cancerous cells.*** Her doctor asked her what she was doing differently, and she told her doctor about the vitamin program. Her doctor replied she didn't understand it, but couldn't argue with success.

There was also other benefit. In July 1995, her ophthalmologist examined her eyes. The first thing he asked was, "What have you been doing differently since your previous checkup?" ***He said her eyes were "healthier" inside than he had ever seen them during the two and a half years he'd been treating her.***

Also, my sister is now able to limit her prednisone (anti-inflammatory medication) to the smallest dosage in the last 22 years. Thank you for your research and for your efforts to spread the word about breakthrough discovery.

Sincerely,  
S.S.



## Notes

WHY ANIMALS DON'T GET HEART ATTACKS – BUT PEOPLE DO!