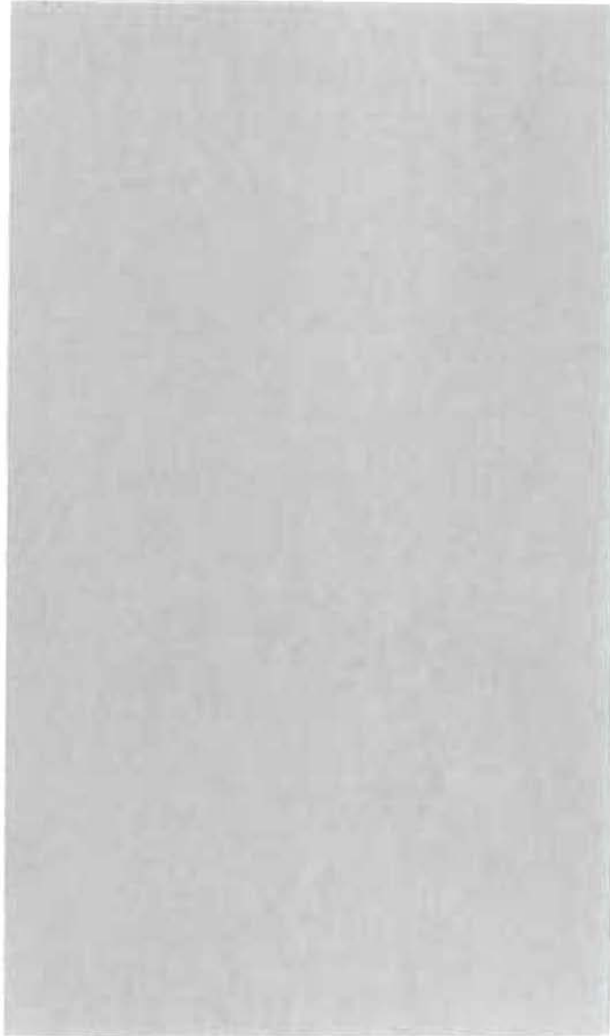


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*To Your
Health*

DENTAL RESEARCH CO.
ST. PETERSBURG, FLORIDA



This pamphlet was written for the Dental Research Co. of St. Petersburg, Florida, by Melvin E. Page, D.D.S., a bio-chemist whose duty it is to conduct research for the Biochemical Research Foundation on the origin and prevention of the degenerative changes so universal and so rapidly increasing in our civilization. For those who wish further information he has written a book "Young Minds in Old Bodies", published by Bruce Humphries, Inc., Boston, Mass. Price \$2.50.

TO YOUR HEALTH

Our bodies are composed of many different substances or tissues as they are called. These tissues are not only structurally different; they also differ in the materials of which they are made. The hair, the teeth, and the nails are of similar origin yet it is evident that each tissue contains different substances. Every structure of the body has its own characteristic chemical ingredients if built properly. These tissues are being used up and being replaced continuously, some quite rapidly and some very slowly. To do this rebuilding well, we must have a continuous supply of the various materials needed. That is one reason why we eat. The other is to supply the fuel needed for heat and energy.

To know just what our bodies need and how best to furnish these essentials, has been the life work of many people. Some of the ingredients bulk large and some are minute, but the part each ingredient plays cannot be judged in importance as to its bulk. An automobile contains more iron than molybdenum, yet if either one or any other of the essential ingredients of its component alloys were left out, the mechanism would not be as good as it should be.

It is so with our bodies. If our diet is inadequate the efficiency of the body machine as a whole is impaired. If the inadequacy is serious enough, the body like the engine suffers break-downs.

The prevalence of dental decay, loss of bony structures, the increasing incidence of de-

generative processes such as arthritis, cancer, cardiovascular disease and many others all point to the fact, that in general the efficiency of the body chemistry is not what it should be.

A large portion of these ills can be prevented and often cured by treating our bodies as they should be treated. The first step is by means of adequate diets. The rules for this are simple. 1) supply everything essential, 2) omit everything harmful.

To obey the first rule we must know the essentials. McCullom and Sherman list the following as essentials. Fourteen of the amino acids, linoleic acid, some source of glucose, at least eleven elements (minerals) and vitamins.

You will notice that the minerals take up a good share of the list. Some of these are likely to be deficient in the diet of most everyone, the reason being that land grown foods can get their mineral content only from the soil in which they grow. Yet soils differ in their mineral analyses to a remarkable extent. This is due to the different geological structures from which the soil was derived and to the leaching effect of centuries of rainfall. Rain water is soft because it contains no minerals but as it passes through the soil it dissolves minerals and becomes hard water. Eventually this reaches the sea where the minerals remain, for evaporated water leaves its minerals behind. This evaporated water makes clouds and from clouds is precipitated again as rain and the process goes on again over and over. The land becomes more depleted of its soluble minerals and the sea becomes more enriched.

These minerals are extremely essential for those of us whose ancestors lived in coastal Europe. We can tell by the shapes of our heads if we come from coastal or inland stock. Coastal stock is long-headed; that is, greater in diameter antero-posteriorly, than side-ways. Inland stock is round-headed, sometimes called square-heads.

The reason these sea minerals are so essential to descendants of coastal peoples is because their ancestors practically lived on sea food, and sea food contains the minerals of the sea. We are what our ancestors have made us. Our bodies are structurally and chemically no different now than ten thousands of years ago, nor are our needs.

Some of us do not like fish well enough to eat it every day and for most of us it is impossible to get fresh sea food daily. Fortunately anything which grows in the sea has these essential mineral constituents. That is why we use kelp, a vegetable which has been washed, dehydrated, ground, and pressed into tablets for our daily supply of the trace sea minerals. We find that one tablet contains as many of these minerals as three quarters of a pound of the flesh of sea fish.

Kelp is mixed with bone flour and iron citrate to make other tablets. These contain calcium and phosphorus, flourine and iron in addition to the trace minerals of kelp. They are used to insure an adequate supply of these minerals whenever the diet seems to be lacking in these elements. One tablet of these minerals contains as much calcium and phosphorus as a

glass of milk. The flourine content is particularly of value in bone and tooth health. The iron content is very important to women and to everyone living where the soil is deficient in this element.

We find that three or four of either one of these tablets taken daily will be beneficial to most people.

Now the other things in the list of essentials are just as important to the body as the minerals but we find that people who will read this are well aware of the importance of a balanced diet and are unlikely to suffer from a want of them with the possible exception of some of the vitamins.

Vitamins are composed of carbon, hydrogen, and oxygen in the main, and are formed in the plant where-ever it grows because these materials are easily obtained by the action of sunlight from the air and from water. We only have to guard against loss of them from our foods by improper treatment such as too long storage or improper preparation, or by displacement of life giving foods by solely energy giving substances.

It is not so generally understood as to why these vitamins and minerals are so important. They are found in the body almost exclusively in the glandular organs. The glands need them for their well being, and for the secretions which they produce. Since the glands control all chemical processes in the body it is essential that they be healthy if our body chemistry is to be efficient. And upon the efficiency of body chemistry depends our abil-

ity to protect ourselves against the invasion of bacteria.

Another function of these glands or endocrines is the assimilation of food. If they are out of order we assimilate poorly. We get too fat or too lean. We utilize certain foods well, certain others poorly. We do not control well the balance between the essentials even though they be in the foods eaten.

The function of the glands is what determines similarity or dissimilarity of diet and nutrition for diet is what the person gets to eat while nutrition is what the cells of the body get to eat. This is a distinction not always remembered or known.

The second rule in diet is just as important as the first. Omit harmful substances. These are the refined foods, so-called. First they destroy the balance of use for which foods and our bodies are adapted. The body requires 68% of its intake to be converted into glucose for energy and heat. The balance 32% is composed of the material needed for building material, replacement, and for waste. Of such proportions is the balanced diet composed. Our bodies have been built and adapted to the balance of nature. The big fault of all civilizations has been to destroy this balance of food. When we destroy our balance with nature we commit suicide. Few realize that in all probability this civilization will soon go the way of the others that history records. All the evidence points to the probability that it will be of shorter duration than those that have gone before and also that the catastrophe will be more universal than

ever before since the civilized world is of much greater extent. Price states that if we aren't smart enough to recognize and forestall it, the aborigines of Australia are still capable of carrying on life on this planet.

The chief substances which are harmful and that should be avoided as one would the plague are white flour and sugar. Of these sugar is by far the worse for the following reasons.

Sugar is what is left when the building material, the vitamins and the minerals have been taken out of certain foods. It is not a food. It is a chemical. It can be converted to glucose in the body by one step in the process of digestion for it is a disaccharide while glucose is a monosaccharide. Its use destroys the balance of food ingredients. When we increase the proportion of glucose manufactured from our intake of food we decrease the proportion of building material, not by the same proportion as we increase the glucose but by more than twice the proportion. In other words we starve on a full stomach. Contrary to some opinion sugar is not an essential to the welfare of man any more than any other animal. This civilization has only had it a relatively short time in any quantity.

It is a natural instinct to like sugar because it satisfies our taste buds for sweet. However, the taste sweet is only a label. In nature sweet never appears alone, it always has minerals and vitamins with it. We have no sense of taste for minerals and vitamins but it is our need for them that arouses our desire to satisfy a sweet

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taste. When we try to satisfy this desire with a chemical product which is purely sweet we merely drive this taste to greater lengths to satisfy itself. Rather a refined method of starvation, isn't it?

I believe sugar to be the most disastrous substance of civilization not only because it is a deficiency food but because through its use we impose undue hardship upon the sugar-converting glands. The reason it does so is this. Our bodies were originally made to manufacture glucose, a simple sugar from natural foods. Our bodies are the same mechanical contrivances that they were one thousand or ten thousand years ago and they are still capable of turning 68% of our food into glucose, that percentage of our food which must be used for energy and heat. But in the process of digestion, carbohydrates, fat, starches, etc. are converted into glucose so slowly that a small but nearly continuous supply is made. It is like pouring a bucket of water on the top step of a long flight of stairs. It takes quite a time to collect the water at the bottom step. On the other hand, if we pour the water on the next-to-the-last step it all reaches the bottom step in a hurry.

It is so with sugar, the disaccharide, it has only one step to go before becoming glucose. It then can go immediately into the blood stream. It is essential that our blood streams contain at all times an adequate amount of sugar and this should be kept within a certain narrow range, neither too high nor too low.

To regulate the amount of glucose allowed

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to stay in the blood a sort of thermostat is built in our bodies. This thermostat or more properly this gluco-stat is composed of sugar-converting and glycogen-converting glands. If the sugar level is too high the sugar-converting glands are stimulated to increased production of their hormones which in turn convert sugar into glycogen, an insoluble sugar which is stored in the liver and muscular tissues. If the sugar level of the blood gets too low the glycogen-converting glands are stimulated. These hormones then convert glycogen into sugar and the blood sugar is increased.

If day in and day out these sugar converting glands are over-worked, the time comes when they are worn out and inefficient. They can no longer control the nutrition of the body cells. The cells breakdown and disease appears. If the other glands do not have adequate building materials they also become inefficient.

Health is dependent upon a good diet for the person and good nutrition for the cell. Good cell nutrition requires proper working of the glands. Both are benefitted if we follow two rules of diet 1) supply everything needful 2) omit everything harmful. When we use dark flours instead of white and replace sugar with un-tampered foods we automatically increase our vitamin intake. If we take kelp to supply our mineral needs and let our instincts of taste, sweet, sour, bitter, salt determine our selection of food, and appetite the quantity, we will have an adequate diet. Our instincts about food are just as good as those of other animals if we give them a chance. Did you ever hear

of a wild animal dying of diabetes or cancer? Not unless he was eating man's food.

The sugar converting glands are among those that control the calcium levels of the blood, while the glycogen converters are among those that control the phosphorus levels of the blood. In health these opposing forces match thus maintaining a relatively constant proportion of these two minerals in the blood.

This constant proportion is important, for a compound is formed from these minerals which nourishes teeth and bone. A high level of this compound insures good teeth, a low level bad ones. If one level is depressed, the other is raised, so the level of the compound is determined by the ingredient whose level is lowest. If the phosphorus level is the low one some of the calcium will be unused in the compound thus furnishing free or unused calcium to the blood. This free calcium is like sand in a stream. Wherever there is an impediment to the free flow of the stream or in a quiet back-water, the sand deposits, forming a bar. It is thus with calcium and the blood stream. From this free calcium, deposits such as kidney stones, arthritic deposits, and cataract originate.

Free phosphorus is found in such conditions as glaucoma, gall stones, acute infections and acute arthritis. Dental decay is most common with free calcium due to low phosphorus while pyorrhea is most often due to high phosphorus and low calcium.

This booklet is written to help those who need help and are interested in helping them-

selves. We believe those people are worth saving. It isn't easy to impose discipline upon one's self but we like the people that can do so.

At first a person misses sugar greatly. It is usual for the initiate to feel badly for the first week of the new regimen, then he begins to recover sensitivity of taste, his appetite increases yet he doesn't gain weight unless he should be underweight. He begins to recover a sense of well-being which he perhaps fails to remember he ever had. No one knows the elation of abundant health who has never experienced it.

Some people, but only a few, will experience nausea or their pulse will quicken when starting to eat kelp. This is due to a hyperexcitability of the thyroid gland. Such people should take the tablets in very moderate amounts perhaps three or four tablets weekly until the gland has regained better health and equilibrium. They need the tablets even more than other people but they must be moderate in their use. Some people, on the other hand, find that they feel better when they take more than three tablets daily. Some take ten or a dozen; it is a matter of the individual.

As body chemistry gets better one finds he improves in numerous ways. With each person it will be in different respects for with efficient body chemistry comes a high ability of the body to take care of its own ills, and its own defenses.