

# ENZYME NUTRITION: THE FOOD ENZYME CONCEPT

## Dr. Edward Howell

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Executive Book Summary by Nicholas Calvino, DC

### **Introduction**

This book attempts to bring into the light the most important nutritional discovery since vitamins, minerals, and trace elements, and perhaps the only solution to our present health crisis – food enzymes. Dr. Howe's conclusion is that many, if not all, degenerative diseases that humans suffer from are caused by excessive use of enzyme deficient foods. Aging and enzyme depletion go hand in hand, and by restoring vital enzymes, Howe proposes we can live longer and healthier lives. Dr. Howe stated this in his *Enzyme Nutrition Axiom*, "The length of life is inversely proportional to the rate of exhaustion of the enzyme potential of an organism. The increased use of food enzymes promotes a decreased rate of exhaustion of the enzyme potential." Furthermore, Howe presents evidence that enzymes present in raw foods help predigest foods in the cardiac region of the stomach (theorized to be a vestigial separate fore-stomach) and have other important biological and chemical effects. Howe proposed that enzymes are the "life force" present in every biological system. Only humans, and domesticated animals, live on enzyme free food and as illustrated in the works of Price and Pottenger, we are seeing the devastation this is causing. These concepts are summarized as the *Food Enzyme Concept*.

### **Enzymes, the unit of life**

Prolonged heat over 118 degrees F kills 100% of enzymes naturally occurring in raw foods. Enzyme supplementation is recommended for anyone who consumes a cooked food diet or in the aid of other health conditions. There are three main categories of enzymes: Digestive enzymes, food enzymes and metabolic enzymes. Food enzymes from raw food start food digestion in the stomach so that contents reaching the duodenum are easily broken down further, assimilated and absorbed. Nature's plan calls for food enzymes to help with digestion instead of forcing the body's digestive enzymes to carry the whole load. If food enzymes do some of the work, according to the *law of Adaptive Secretion of Digestive Enzymes*, the enzyme potential can allot less activity to digestive enzymes, and have much more to give the thousands of metabolic enzymes that run the entire body. If the human organism must devote a huge portion of its enzyme potential to making digestive enzymes, it spells trouble for the whole body because it drains the pool of enzyme machinery needed to make the metabolic enzymes. This has systemic repercussions. Any kind of raw diet cuts down enzyme secretion and gives the enzyme machinery a rest. "Nature is a relentless accountant. Her records are indelibly etched into the protoplasm of our tissues." The difference between a healthy and unhealthy food is largely related to its enzyme content. No food in its natural state, full of enzymes, is bad. Whether this be milk, butter, meat, etc. . . Metabolic enzymes run every aspect of human biology from moving the muscles to thinking thoughts. Digestive enzymes have only three main jobs: Digesting protein, carbohydrate and fat. Proteases are enzymes that digest protein, amylases digest carbohydrate, and lipases digest fat.

The enzyme complex “harbors a protein carrier inhabited by a vital energy factor.” The *Food Enzyme Concept* holds that organisms endow enzymes with a vital activity factor that is exhaustible. “It is no longer warranted to consider vitality and life energy as intangible forces. The available evidence does not justify a placid continuance of a nihilistic attitude toward the vital forces operating in the living organism. Enzymes emerge as the true yardstick of vitality. Enzymes offer an important means of calculating the vital energy of an organism. That which has been referred to as vitality, vital force, vital energy, vital activity, nerve energy, nerve force, strength, vital resistance, life energy, life and life force, may be, and probably is, synonymous with that which has been known as enzyme activity, enzyme value, enzyme energy, enzyme vitality and enzyme content.” . . . for every aspect of life and personality are enzyme driven, enzyme dependent. “Life is an enzyme process.”

### **The Food Enzyme Concept**

It has been suggested that no digestion occurs in the stomach except that caused by mechanical churning and some minor breakdown by hydrochloric acid, especially in regards to protein. However, the *Food Enzyme Concept* disputes these allegations. There is ample scientific evidence that shows a great deal of pre-digestion of both carbohydrates and fats occurs in the stomach. Most of this pre-digestion occurs in the cardiac region (shown to be the remnant of a forestomach) of the stomach and is the result of enzymes naturally present in raw food. This “forestomach” region of our stomachs where digestion can take place is called the “*Food Enzyme Stomach*.” If the enzymes in raw food are destroyed this compromises pre-digestion in the stomach and presents the duodenum with food fully in need of digestion. This taxes and burdens the pancreas and requires the body to deplete its precious store of enzymes (both digestive and metabolic). The lack of consuming raw foods in modern man has caused the digestive secretions of humans in the prime of life are pathologically rich, at the expense of metabolic enzymes. The ideal is to consume raw foods, however, this may not be possible. In that case, the use of proper digestive enzyme supplements immediately assist by digesting protein, carbohydrate and fats during the half-hour to hour period that food remains in the stomach. In primates and man the stomach has two portions which function separately. The first portion is the *Food Enzyme Stomach* and correlates to the cardiac region of the stomach. Peptic digestion of protein takes place in the lower part of the stomach (pyloric region), whereas, the upper portion is where food enzymes in raw foods (or from supplemented enzymes taken with food) predigest food material. Furthermore, if supplemental enzymes are used, the *Food Enzyme Concept* and knowledge of the *Food Enzyme Stomach* suggests that the use of enterically coated enzymes are counter productive and are not necessary if vegetarian, rather than animal derived, enzymes are used. Voluminous research data clearly show that the human stomach is really two stomachs with separate functions and that humans, in common with thousands of other species, have been provided with the means of letting outside enzymes help with the burdens of digesting food. Furthermore, Mankind’s change in diet from mostly uncooked to cooked foods has probably resulted in changes in the structures of our gastrointestinal tract beyond the stomach; specifically, the appendix and the cecum play an active role in digestion in many herbivorous animals but have atrophied in humans. Most vegetables and meat eaten by man are first cooked and contain little to no

enzymes. Therefore, the cardiac gastric region, the cecum and the appendix may all be vestigial *Food Enzyme Stomachs* that have atrophied from lack of use.

The body is dependent on enzymes. Enzymes are catalysts that lower the energy required to drive a reaction. Enzymes are temperature dependent. While enzymes do more work with increasing temperatures, they are used up faster. This is why the body temperature is increased in the case of fever – the enzymes of the white blood cells are more active. The extra work enzymes do during a fever, however, causes some of them to wear out to an extent that the system excretes them in the urine. In other words, accelerating enzyme activity or depleting enzymes always comes at a cost to the biological organism. These costs, however, can be offset if the organism has an ample reserve of enzymes or if enzymes are replenished. Since antiquity, enzymes from raw foods have been the source of deposits to our “vitality account” that has allowed us to live healthy, free from chronic disease.

According to the Food Enzyme Concept, “Duration of life varies inversely with the intensity of metabolism.” In fact, we have recently seen scientific papers showing that by consuming less calories, rats and fruit flies (*Daphnia* sp.) are able to expand their life-span and limit damage to their DNA. The mechanism of this phenomena is unknown, however, we propose it is the rationing of enzymes that is partly responsible -- for the pancreas “must steal, beg, and borrow these entities stored in the whole body to make the enzyme complex necessary to digest food devoid of intrinsic enzymes that aid in the digestion of food and liberation of nutrients and vital energy” We believe there is evidence suggesting, “that when the enzyme potential is exhausted beyond a particular point, it triggers the end of the lifespan.” According to the *Food Enzyme Concept*, if you take in reinforcements of enzymes in your early years, your later years will be healthier and happier. By eating food with their enzymes intact and by supplementing cooked foods with enzyme capsules, we can stop abnormal and pathological aging processes. For we suggest that if we postpone the debilitation of metabolic enzyme activity, what we now call old age could become the glorious prime of life. Enzymes, thus, may be the “fountain of life” so earnestly sought for and so mysteriously allusive.

As early as 1966, the editor of a Scottish Medical Journal stated that “probably nearly half of our daily production of protein in the body consists of enzymes.” The increase production of enzymes needed for the enzymeless diet lacking in raw foods thus places a tremendous burden on human biology. This may partly explain why supplementing with food enzymes seems to improve almost every known pathological condition afflicting man – that supplemental digestive enzymes allows the bodies precious resources of proteins to be used to build metabolic enzymes (which drives every process of life) and to promote tissue repair and healing.

### **Enzymes Present in Food**

According to the *Food Enzyme Concept*, “There is a mechanism operating in all creatures permitting food enzymes to digest a particular fraction of the food in which they are contained.” For example, raw meat contains an enzyme known as cathepsin, which is widely distributed in muscles and organs. After the death of an animal, their tissues

become acidic and this promotes catheptic activity. This enzyme, therefore, promotes autolysis and aids in pre-digestion by animals that consume this raw flesh. Animals or humans that consume food raw are healthier. The many diseases that plague modern man and his domesticated animals do not exist in wild animal models. The *Food Enzyme Concept* proposes that it is the destruction of enzymes by heat and the lack of raw foods in the diet that contributes to this factor. For example, human milk has a good amount of lipase which assists the baby in digesting the high fat content of milk, which it certainly needs. Bovine milk also contains scores of enzymes (35+ different known enzymes), most of which are destroyed by pasteurization, that are health promoting. It is interesting to note that the negative health effects of drinking milk only began to surface after the pasteurization of milk and cultures that drink milk raw do not seem to suffer heart disease, atherosclerosis and other disadvantages now associated to our enzymeless milk. In ancient times, physicians such as Hippocrates used raw milk and butter as therapeutic agents to treat disease. Less than 50 years ago before mass pasteurization of milk, the raw milk diet was in vogue and was reported to have success in treating a variety of ailments. Grains are naturally endowed with amylase and some protease and lipase. Raw honey has considerable amounts of amylase -- the amylase being derived from the pollen of flowers, rather than from the bee. In other cultures, the use of fermented foods, aged cheese, aged meat, sprouted grains and raw fruits and vegetables provide an enzyme rich diet. Fermented foods (examples such as miso, Kabitofu, Toyu, Natto, Tempeh, masato, malakachisa, tofu, certain soybean products such as Soy Sauce) are loaded with enzymes. The presence of these foods in these cultural diets have been associated with tremendous health benefits and disease protection. We must think of food enzymes as part of our food and necessary. "When an element -- any element -- is found to be a normal ingredient in food, that element, should be consumed and treasured as a necessary factor in the diet." Food enzymes have always existing in all foods and for that reason are believed to fulfill a biological need. Therefore, the *Food Enzyme Concept* holds that enzymes are a fourth class of essential nutrients, along with macronutrients (fats, proteins, carbohydrates), vitamins and minerals.

Enzymes must be handled with care as they are fragile and vulnerable to excessive heat and/or light. "A cooking stove, which is a human invention, does not come permanently attached as a part of the anatomy of a newly born infant!" It is becoming evident that those diseases which are human trademarks, such as cancer and heart disease, are the products of perverted metabolism induced partly by the hidden machinations of food enzyme deficiency.

### **Enzyme bandits and disease**

Sugar is an enzyme and nutrient thief. Being almost 100 percent "pure," this high-calorie dynamite bombs the pancreas and pituitary gland into gushing forth a hyper-secretion of hormones comparable in intensity to that artificially produced by drugs and hormones. The glands know the organism has been loaded up with calories, but in despite of searching, the nutrients that normally go along with the calories cannot be found in the body. Evidence suggests sugar can cause liver enlargement and lesions in the pancreas and pituitary which can disrupt enzyme machinery and hormone regulation. In 1971 an editorial in *Food and Cosmetics Toxicology* cited many references implicating sugar as a

causative factor in atherosclerosis, coronary disease, kidney disease, liver disease, platelet adhesiveness, increased blood lipids and a shortened lifespan. As in other countries, the rise in sugar consumption parallels the increase in coronary heart disease. Studies in 1972 at the University of Hawaii showed that  $\frac{3}{4}$  of pigs fed a high-sugar diet developed heart disease.

Eating enzymeless foods contribute to obesity and weight gain. Raw calories are relatively non-stimulating to glands and tend to stabilize weight. Cooked calories excite glands and tend to be fattening. In 1937, a paper entitled, "Comparative Experiments with Canned, Home Cooked and Raw Food Diets," was published in the *Journal of Nutrition* (Kohman, Eddy, White and Sanborn. 14:9-19). Their findings indicated that canned food eaters were more likely to gain or be overweight than those who ate the same amount of calories from raw sources. The food enzyme concept holds that cooking drains the enzyme pool/reserve and decrease the vitality and longevity of the organism while at the same time increasing the absorption of calories beyond what it normal, contributing to ill-health and obesity. Calorie indexes, and science, make not distinction between the amount of raw and cooked calories. As a general rule, cooked foods are much more fattening than raw foods, even of the same type (i.e. raw vs. cooked bananas). Fat is not fattening, especially when present in it's raw state. Fatty foods, in their raw state, are naturally endowed with copious amounts of lipase, an enzyme which helps break down and metabolize the fat. In 1966, Dr. Galton of Tufts University School of Medicine found that overweight humans had deficient amounts of lipase in their adipose tissues compared to normal weight individuals. "It may be that obesity and abnormal cholesterol deposits both have their genesis in our failure to permit fat predigestion in the upper stomach (food-enzyme stomach) by destroying the natural lipase content of fatty foods." Studies earlier this century show that rats, which are resistant to the development of atherosclerosis, manifest about twice the aortic lipoprotein lipase activity. Furthermore, hypertensive subjects display about  $\frac{1}{2}$  the serum lipase levels as normotensive subjects. Test confirm that these enzymes are partially derived from foods (in which the lipase content has not been destroyed) and absorbed intact through the intestinal mucosa. This provides evidence of systemic effects of food and digestive enzymes – evidence which is now becoming more abundant.

Research is now accumulating which also link enzymeless diets to a variety of chronic health conditions. For example, in 1947 Dr. Renshaw reported in the *Annals of Rheumatic Disease* his findings that Rheumatic Disease may be caused by intestinal atrophy, and an inability to "deal adequately with protein digestion and metabolism." Dr. Renshaw tested his theory that food enzyme deficiency was the cause and supplemented over 700 private patients with various afflictions with enzymes. His findings showed that most patients with rheumatoid arthritis, osteoarthritis, fibrositis, ankylosing spondylitis, and stills disease responded very favorably. Further research has confirmed the role of intestinal integrity, food particle size and gut immune responses and their relationship to rheumatic disease, auto-immune disease, allergies, mental conditions, etc. . . All of these are factors are closely related to the enzyme content of food.

Enzymes are the workers and hormones are the foreman. Hormones can have no effect without the work being done by the enzymes they direct. Therefore, enzyme deficiency affects the endocrine system in three ways: One, is by overstimulating the glands by improper assimilation of nutrients. Two, is undernourishing the gland by the same mechanism. And three, is attenuating the hormone response by depleting enzyme reserves and activity. Furthermore, new research is finding that enzymes are needed to cleave pro-hormones to hormones and play a role not only in following the dictation of hormones, but in activating them in the first place.

Allergies are a primary indication for enzyme therapy. Food allergy results when the protease, amylase, and lipase in the blood fall below a certain level (according to Dr. A.W. Oelgoetz in a report published in the 1936 *Medical Record*), allowing unhydrolyzed food substances to accumulate in the blood (allergy appears to be due, in part at least, to absorption of incompletely digested protein molecules). Also, when scavenger enzymes are not able to handle the load of waste removal, nature may throw some of the unwanted material out through the skin, nose, throat or other orifices. Dr. Oelgoetz recorded positive responses to using enzymes in conditions such as Chronic angioneurotic edema, allergic eczema, pancreatic indigestion, allergic headache, allergic vomiting, chronic urticaria (hives), allergic edema, allergic colitis and pancreatic achylia. Other conditions noted to respond to enzyme therapy is psoriasis, bronchial asthma, food asthma, food eczema, hay fever, and loose bowels.

“Because of the unrelenting mortality rate from cancer and its close identification with changes in enzyme chemistry, cancer stands out as the number one candidate for massive enzyme therapy. The principles of *Enzyme Nutrition* and the *Food Enzyme Concept* disallow direct, specific treatment of cancer. The proper course is to make it unnecessary for the digestive system to produce so many digestive enzymes in order that the enzyme potential will have the capacity to make and channel more metabolic enzymes to the site of malignancy and normalize its enzyme chemistry.” In fact, the works of Dr. Kelly and Dr. Gonzales have proved these approaches valuable. So valuable that trials with the National Institutes of Health (NIH) are currently underway for the use of pancreatic enzymes in the treatment of pancreatic cancer.

### **Enzyme supplementation**

By now, I am sure it is becoming obvious to you of the great need to consume calories from raw foods. However, I am sure it is also becoming obvious that this is becoming less and less practical, and less possible. Therefore, it will become essential to consume supplemental enzymes. But what enzymes are the best and how should they be consumed become another item of debate. Vegetarian enzymes are superior to animal derived enzymes. Vegetarian enzymes are made by a fermentation method using cultured fungi, such as Aspergilli. Vegetarian enzymes are especially valuable for aid in predigestion in the *Food Enzyme Stomach* because they digest best in a mild acidic environment, whereas, animal derived enzymes work best in a basic environment and therefore are not active until they reach the duodenum. For this same reason, non-enterically coated enzymes are preferred to enterically coated enzymes, as the *Food Enzyme Concept* illustrates, the aim is to assist pre-digestion in the stomach, not just in

the intestines. Furthermore, vegetarian derived enzymes can be concentrated to a greater extent than animal derived enzymes. All of these factors make non-animal derived, non-enterically coated enzymes the enzymes of choice when it becomes necessary to supplement the diet with enzymes.

### **Summary**

What does this all mean? Shortened lifespan, inferior health of the organs, and nagging illnesses; and all due to an enzyme-deficient diet. The political and financial powers that benefit from the use of highly denatured, refined, enzymeless, life-less food would have us to believe that cooking, refining, bleaching, radiation, etc. . . are safe. While true these means may increase the safety of food from a microbial/parasitic/infectious standpoint, they are not safe to maintain human vitality and wellness. A diet that contained 75% raw and 25% cooked calories would be a vast improvement, however, impractical with today's food supply. Therefore, our best hope is to consume as many raw foods as we can and supplement our diets with proper enzymes. With hindsight, it is hard to forget the positive assurances on the safety of DDT when it first appeared. We were regaled with glorifying stories about its selective activity: DDT would kill only insect pests. This stuff has now spread from pole to pole and even though banned for more than 20 years, it is now a source of toxicity for every living creature on earth. Let's not let our lives be part of "science's" test tubes and experimentation. As for me, give me what is pure and natural! Give me enzymes and give me life!