Enzyme Basics

What are enzymes?

Enzymes are protein molecules that are manufactured by all plant and animal cells. All cells require enzymes to survive and function.Enzymes are catalysts, which means that they make chemical reactions go faster, but are not changed by the reaction. For example, digestive enzymes cause food that you eat to be broken down much faster than would occur without them, but they are not broken down in the reaction they are speeding up.

Research has shown that people who have a chronic disease or have low energy levels also have lower enzyme content in their blood, urine, and tissues. While there is clearly a direct relationship between disease states and a person's enzyme levels, only recently has the NATURE of that relationship been better understood. Researchers began to question if a person's enzyme levels were low because they were sick or were they sick because their enzyme levels were low. The researchers found something surprising.

A person may not have a low enzyme content because he is sick or old, but instead, the reason a person may be sick or old is because of low enzyme content.

As a result, the "old concept" of "I am sick, therefore my enzyme levels are low" has recently been replaced by a "new concept" which is "my enzyme levels are low, therefore I am sick."Read more about enzyme research.

Why are enzymes important?

Enzymes are one of the most essential elements in our body. Enzymes are more important than the air you breathe, the water you drink, and the food you eat. Why is this? Enzymes are required for your body to function properly because without enzymes you wouldn't be able to breathe, swallow, drink, eat, or digest your food. To do all of these things, your body needs some help. You must have enzymes to help perform these tasks. Enzymes are an absolute necessity to live.

Enzymes are your body's workers. They are responsible for constructing, synthesizing, carrying, dispensing, delivering, and eliminating the many ingredients and chemicals our body uses in its daily business of living. Your body makes enzymes. When you were young, you had an abundant supply of enzymes. You felt great. Your energy level seemed never ending. You had "enzymes to burn" which kept you running at tip top efficiency.

As time goes by, you SLOWLY begin to lose this efficiency. For years you don't even notice the changes. But then you are less able to eat the spicy foods you love or less able to recover as quickly from the aches and pains of weekend sports. This reduced vitality and stamina can signal a weakened and compromised body.

You're running low on the enzymes you need to fuel your life. The process of depleting your enzymes is a slow one, and most likely you didn't notice your energy and vitality disappearing until one day something you once loved to do was suddenly too much work. You aren't getting too old to enjoy life, you are running out of enzymes that would ensure you the energy you need to enjoy life. You simply need to restore your enzyme potential.

What is happening to our enzymes?

The reason we are running out of enzymes is a LIFESTYLE PROBLEM. Our poor dietary habits, fast food obsessions, and excessive intake of fat and sugars, all require excessive amounts of enzymes to digest our foods. Stress kills and damages cells, resulting in our enzyme-making machinery having to work overtime to help rebuild and replace them. Environmental pollution causes cellular damage requiring ongoing assistance from enzymes just to maintain a healthy immune system. And time is a big factor. Time and the process of living uses up enzymes that must be replaced if we expect to retain the healthy active lifestyle we have grown accustomed to. Every one of these factors diminishes our body's capacity to act, to do, to feel the way we want to feel; and, as many reputable scientists will tell you, these factors may even shorten your life.

ENZYMES are ESSENTIAL, but your enzyme potential is dropping. Many researchers now view the aging process and death itself as nothing more than an enzyme potential which has decreased to a level where the living organism can no longer be repaired and maintained in its existing environment.

You may slow down this trend by fortifying your body with supplemental digestive enzymes. You can help minimize this inevitable downward spiral in your body's efficiency, a spiral created by a growing shortage of available enzymes.

How can I maintain my enzyme potential?

There is much you can do to combat your waning enzyme potential. The sooner you start, the quicker you begin to restore and extend the vitality you once had. If you still think you have it, you might be surprised what you have ever so slowly lost without knowing it until you get it back. And, if you're young enough not yet to have lost it, then here's a way to keep it.

Supplemental digestive enzymes are win-win for all ages. The research is clear that enzymes can help you maintain good health. Read more about enzyme research.

Enzymes & Nutrition

What role do enzymes play in nutrition?

To better understand digestive enzymes, we must first understand the role of NUTRITION in our health. Nutrition is the body's ability to use and metabolize food. There are 45 known essential nutrients that are required in specific amounts for the body to function properly. The term "essential," as used here, means the body cannot synthesize them internally. Therefore all "essential" nutrients must come from exogenous, or outside, sources. In addition to carbohydrates, fats (lipids), complete proteins, and water, there are at least 13 kinds of vitamins, and at least 20 kinds of minerals required for proper metabolic function.

Once consumed, the food containing these nutrients must be digested, meaning they must be broken apart and reduced to a state that the nutrients can be absorbed into and transported by the blood stream to all parts of the body.

Our body's cells are programmed to direct each nutrient to combine and interact with other nutrients and chemicals to create still other chemicals and compounds which, in turn, are used to build and repair the body's cells, bones, tissue, and organs. The process is called metabolism. Each metabolic reaction is started, controlled, and terminated by enzymes.

Without enzymes, no metabolic activity will occur. A body that does not consistently and efficiently metabolize the essential food nutrients necessary cannot maintain optimum health.

What are the types of enzymes?

Enzymes are classified into three categories.

DIGESTIVE ENZYMES

FOOD ENZYMES

METABOLIC ENZYMES

Metabolic enzymes run the body. They exist throughout the body in the organs, the bones, the blood, and inside the cells themselves. These enzymes are instrumental in the growth of new cells and the maintenance of all tissue. Every organ and tissue has its own group of specialized enzymes. They are trained to run and maintain their host. When these enzymes are healthy, robust, and present in adequate numbers, they do an excellent job carrying out their mission.

The two kinds of enzymes we are concentrating on here are DIGESTIVE ENZYMES and FOOD ENZYMES. These two are active only within our digestive system. These enzymes have only one job — to digest our food.

DIGESTIVE ENZYMES are made by our body's organs. Digestive enzymes are secreted by the salivary glands, stomach, pancreas, and the small intestine. [Technically, digestive enzymes are also considered to be metabolic enzymes whose metabolic role is to digest food. We are specifically distinguishing these particular enzymes here, because they deal with digestion and they can be supplemented from an outside source.]

FOOD ENZYMES are already present WITHIN the food we eat. Food enzymes exist naturally in raw food. If the food is cooked, however, the high temperature involved in the cooking process will destroy the enzymes.

Digestive enzymes and food enzymes basically serve the same function, which is to digest our food so it can be absorbed through the walls of the small intestine into the blood stream. From this viewpoint the only real difference between food enzymes and digestive enzymes is whether they come from inside our body or from the food we eat.

Why are enzymes so important for digestion?

Most food, when it is uncooked, contains enough natural food enzymes to digest that food. When you cook the food the enzymes are inactivated (denatured) and can no longer assist in the digestive (breaking down) process. Eating raw food is totally acceptable in some cases and quite unacceptable in others. We eat raw fruit and many raw vegetables, but less often do we eat raw meat, raw fish (not withstanding sushi), or raw pork. Eating uncooked rice is nearly a guaranteed trip to your dentist! So, obviously we cook our food.

Here's where the problem occurs. Cooked food contains no enzymes because they have been destroyed. If you eat a meal consisting of a salad, a steak and a baked potato, there are likely enough food enzymes contained in the salad to digest it (break it down so your body can use its nutrients). But, there are no extra enzymes available to help digest the steak or the baked potato. Because the steak and potato are cooked, there are no FOOD ENZYMES available to digest them, so our body must take over and internally create the needed amount of DIGESTIVE ENZYMES to handle the digestive task.

The more we depend on our internally generated DIGESTIVE ENZYMES, the more stress we put on our body's systems and organs and the less time these systems and organs have for rebuilding and replacing worn out and damaged cells and tissue and keeping our immune system strong. Your body’s top priority is making sure it has enough nutrients to run its systems. This means digesting food and converting it into nutrients. There is no activity more important to the body than this. This takes a lot of energy and enzymes, particularly if the body must make most or all of these enzymes. Remember that no food can be digested without digestive enzymes.

Dr. DicQie Fuller, in her book The Healing Power of Enzymes, emphasizes the importance of enzymes for digestion:

"Eighty percent of our body's energy is expended by the digestive process. If you are run down, under stress, living in a very hot or very cold climate, pregnant, or are a frequent air traveler, then enormous quantities of extra enzymes are required by your body. Because our entire system functions through enzymatic action, we must supplement our enzymes. Aging deprives us of our ability to produce necessary enzymes. The medical profession tells us that all disease is due to a lack or imbalance of enzymes. Our very lives are dependent upon them!"

Which digestive enzymes digest food?

You know that proteins, carbohydrates, and fats are the three main food groups that make up the bulk of our daily diet. A "balanced" diet means we consume the proper proportions of these three basic food groups on a daily basis. This balance, when combined with the assurance that we also get the essential nutrients, can help provide a healthy life — IF we properly process and metabolize these nutrients. To do this we also need an adequate source of the major types of digestive enzymes: Proteases, Amylases, and Lipases.

FOODGROUP

% OFDAILY DIET

ENZYME CLASS ENZYME'S FUNCTION

Proteins 20-25 % Protease Digests Protein Carbohydrates 50-60 % Amylase Digests Carbohydrates Fats 20-30 % Lipase Digests Fat (lipids)

There are numerous categories of digestive enzymes, but for the purpose of this discussion, we will cover the three primary classes of digestive enzymes that digest our food. [NOTE: generally speaking, enzymes end with the suffix "ase."]

Your Enzyme Potential

Do I have an infinite supply of enzymes?

No. Until recently, many within the scientific community labored under the misconception that the digestive enzymes in our body are constant and last forever; that they can be used and reused; that they never get old and never wear out.

Researchers now know that we lose digestive enzymes through sweat and body waste. Through constant use, enzymes lose their strength and ability to do their work. As we age, the organs responsible for producing our digestive enzymes become less efficient. Today's environmental pollution, overly processed fast foods, genetically modified food, and microwave cooking can result in free radical damage, which lowers the body's effectiveness to produce enzymes. To offset this loss, we need to supplement our system with oral digestive enzymes.

What happens when we start to run low on enzymes?

Proper amounts of enzymes are a key part of optimum health. DIGESTIVE ENZYMES are needed to properly digest and metabolize nutrients.

When our body is stressed by a shortage of digestive enzymes two things can happen and both are bad:

1. Our body continues to work overtime to create the needed enzymes required to digest our food. This extra stress adversely affects our immune system and lowers our ability to protect ourselves from and fight off disease.

2. Because our body finally becomes so overworked, it can't make enough enzymes to properly digest our food.

Supplemental digestive enzymes will deliver the necessary nutrients to fortify your body and can enhance your body's healing system often resulting in improved overall health and vitality.

All-Natural Skinny Fiber contains the digestive enzymes our bodies NEED to properly digest our food!! http://successconnection.SBCSpecial.com