

# Enzymes and Health

Session II

## ENZYMES for Health and Well-Being

Enzymes are a natural essential substance that carry out every chemical action and reaction in humans, plants, nature, animals, and all microorganisms, which are the primary functions of life. Without enzymes there would be no existence. Science has identified more than 2,700 enzymes in the human body that play a vital role in our metabolic functions of cells, tissues, hormones, blood, body fluids, fats, carbohydrates, sugars, minerals, and vitamins. They are the workaholics that maintain the body's homeostasis (the maintenance of relatively stable internal physiological conditions as body temperature or pH balance). Enzymes are the primary essences of our immunity. They assist in our ability to overcome unhealthy conditions.

Enzymes work within every element of our life including the functions of hearing, smelling, thinking, blood flow, neurological, endocrinology, reproduction, breathing, etc. Enzymes are the staple holding the body together, when enzymes stop functioning, organic life dies including humans, plants, and microorganisms. Cancer for instance is the disruption of the enzymatic life given process, which results in the decaying process of organic life. They are unable to maintain the ability to support life. Enzymes are basically the *labor force of your body*.

Enzymes are protein-based molecules performing specific jobs in your body, including digestion, absorption, assimilation of nutrients as they eliminate waste by products from foods. They promote healing, seeing, hearing, sensitivity, feelings, thoughts, growth, etc. Enzymes are responsible for all evolution elements of life. Enzymes are what causes food to ripen and rotten. Foods are our source of nourishment, where enzymes degrade them into small molecules to be absorbed into your body for health and wellness. They repair the body after trauma, detoxify the systems, and processes neurological and mental activities.

Enzymatic process of amylase, protease, lipase, ptyalin, maltase, etc. assist your digestive tract in reducing food into small particles to be absorbed by the intestinal tract to nourish your blood, tissues, muscles, nerves, bones, and glands. Enzymes play a critical role in the aging process, determining the length of your life and health throughout the years you live.

The *National Enzyme Commission* identifies enzymes by the elements they act upon and place "ease" at the end of their name. For instance, protease synthesizes protein, lipase breaks down fats; cellulase synthesizes cellulose, amylase and ptyalin break down starch, maltase digests sugar, and lactate to degrade milk sugar. Some enzymes do not carry ease in their name, such as trypsin and pepsin. Both trypsin and pepsin degrade proteins in your stomach. However, trypsin is an inactive form of trypsinogen, produced in your pancreas and secreted into the stomach to break down proteins.

The consumption of raw and fermented foods (sauerkraut, kimchi, miso, tofu, etc., which are pre-digestible) provide their own enzymes, which assist in the digestive process. Eating these types of food replenish the body's enzymes and aids in maintaining health and wellbeing of your body. On the other hand, cooked foods use the body's enzymes to degrade the particles into smaller molecules for the digestion, absorption and assimilation of nutrients. When foods are over cooked or eaten in the wrong combination and/or season, they deplete your body's enzyme supply. This is one of the reasons you should take digestive enzymes when eating cooked foods. Cooked foods

should have a crunch to them, which indicates there are still enzymes in the food. The interesting thing is that depending on the season, raw foods can reduce the enzymatic process and cause the body to retain dampness (phlegm/mucus). During autumn and winter, your digestive system reduces its ability to degrade foods and raw and cold foods shut digestion down, allowing it to store in the small intestine where it inhibits the absorption of nutrients. Spring and summer are the seasons where digestion is high and at its peak.

Enzymes are sensitive to heat and light. Enzymes decompose at a temperature of 118 degrees Fahrenheit. Most foods are cooked at about 250 to 400 degrees Fahrenheit. Food manufactures process food well over 2,000 degrees Fahrenheit to reduce and/or eliminate the bacteria in food. At this point, there is no life given properties left in the food. All the nutrients and enzymes have been destroyed and the food is a burden on the body. This causes weight gain, bowel problems and other health conditions. In children, it can impede their growth and development.

Processed, overcooked, chemical laced foods (dyes, additives, preservatives, pesticides, and herbicides), frozen, prepackaged, cooked, and canned foods causes your body to produce more of its own enzymes in order to digest these foods, which means, if you have a health situation your body has to decide whether it will digest the food or continue to heal the body. If you have health disharmonies like obesity, overweight conditions, hypertension, diabetes, and other chronic health conditions, a depletion of enzymes reduces your body's ability to heal. It also allows for more waste storage.

During dis-ease or exercise, the need for enzymes is greater. If there is a deficiency the body tries to receive nutrients from wherever it can, leaving some areas of the body depleted. In the replenishing state, the body will shut itself down, resulting in fatigue, muscle cramps, and overall body weakness. This is when one may feel tired in the middle of the day or right after exercising.

Eating raw or partially cooked food provides the body with a greater amount of enzymes, which improves one's nutritional values. Raw fruits and vegetables contain an abundance of enzymes that promote and assist the body in maintaining health and well being. The enzymes in fruits and vegetables increase the body's chance of preventing and eliminating health conditions. Raw foods are also full of antioxidants, carotenes, phenols, carbohydrate, fats and sugars that work in harmony to increase health.

Digestion and absorption rely on enzymes to break down food into liquids to be absorbed in your body. This is why it is important to chew (masticate) your food well. When you don't masticate food well and it is swallowed in large pieces or eaten in the wrong combination, the enzyme "amylolytic" found in the alkaline environment of the mouth is unable to digest starch and carbohydrates. When proteins are consumed, which is a group of amino acids, they need protease -- a "proteolytic" enzyme to digest them in the acidic environment of the stomach. If there is an enzyme deficiency, protein is unable to be digested. Protein moves into the small intestine where it putrefies and causes obstructions in the bowels. Without the absorption of protein, the body will have problems with growth and development.

Fats are fatty acids or lipids, which are triglycerides, phospholipids, and sterols, and need “lipolytic” enzymes to assist in the decomposition of its structure. In cases where fats are present but there is a lack of lipases to break down them down, they lodge in other areas of the body, such as in the blood as cholesterol, or in the adipose tissues as fat. An imbalance of lipolytic enzymes results in high cholesterol, weight gain, cardiovascular disease, and other health conditions.