



 **Thomas Laboratories**

**Contributing to Overall Wellness  
and Longevity**



**Enzyme Therapy**  
**What are enzymes  
and why do we need them?**

**by Stephen A. Thomas, R.Ph.**



## WHAT ARE ENZYMES AND WHY DO WE NEED THEM ?

Enzymes are the very spark of life, they are protein chemical catalysts that catalyze and regulate every chemical reaction in the body, and without them life could not exist. There are over 2000 different enzymes in the human body that combine with co-enzymes to form over 100,000 biochemical substances that enable us to produce the energy we need to live, think, hear, move and digest our food. As people age, human enzyme production starts to decline, with this decline we lose the vital enzyme force that enables a younger person to recover quickly from illness and injuries and grants them the flexibility, ability and energy to accomplish great things.

Depending upon each person's lifestyle, diet and inherent enzyme production, digestive difficulties and degenerative diseases may appear and strength, flexibility, endurance and mental activity will start to decrease.

There are 3 types of enzymes, digestive, metabolic or systemic which are produced by the body, and food enzymes which must be obtained from the live foods that we eat. Digestive enzymes are secreted by the digestive system to break down food into nutrients to be absorbed into the bloodstream and to eliminate waste.

The human digestive system secretes the proteolytic protein-digestive enzymes protease, trypsin and pepsin, fat-digesting enzymes lipase and enzymes that break down carbohydrates including amylase, sucrose, maltase and lactase. The body does not make cellulose, an enzyme necessary for digestion of fiber that is present in raw plant foods however the micro flora in the intestines can manufacture cellulose if a sufficient colony of these beneficial bacteria has been established by eating fermented foods.

There are approximately 45 essential nutrients, 13 vitamins and 20 minerals, in addition to fats, carbohydrates and water that are required for proper metabolic function. Nutrients, including enzymes work together acting as catalysts to promote absorption and assimilation. The importance of digestive enzymes resides in the fact that the human body cannot absorb nutrients in food unless digestive enzymes break them down.

Therapeutic use of enzymes has been studied and used extensively in Europe, Asia and to a lesser extent in the United States for over 40 years. In spite of what has been previously thought, enzyme supplements are not destroyed by the stomach acid. There are no toxic levels of enzymes so they are very safe, even for children and pregnant women. It is also important to note that if we provide the body with enzyme supplements, the body does not decrease its own enzyme production. The only precaution of using enzymes would be for those that are taking blood-thinning medication, as the enzyme naturally cleans the blood and improve circulation, giving blood-thinning drugs a stronger effect.

Systemic enzymes are produced by every living cell, however, the liver, pancreas, gall bladder and other organs play a vital role in their production. Some of the enzymes used for digestion also perform other important functions in the body systemically.



When we are deficient in any of these enzymes due to depleted reserves and insufficient dietary intake of raw foods, there will not be enough enzymes left after digestion to be used in the body for other functions, and health problems occur. More than likely there will not ever be enough enzymes available to completely digest our food. Likewise, by taking digestive enzymes supplement with our meals and systemic enzymes between meals on an empty stomach, many of these conditions can be reversed and healed.

When there is a deficiency in the starch digestion enzymes amylase, blood sugar imbalances can occur. Protease deficiency can result in immune system disorders. Fat-digesting lipase deficiency can contribute to high cholesterol and triglycerides, gall bladder problems, hormonal imbalances, obesity, and psoriasis. Cellulase deficiency can cause malabsorption of nutrients, bloating and candida overgrowth. Enzyme supplementation has been known for years to help all of these conditions.

Digestive enzymes are secreted along the GI tract and break down the food in the body so that the nutrients are absorbed. Enzymes are present in the food you eat which is why there is great importance placed upon having plenty of raw foods in the diet. The enzymes in raw food help start the process of digestion, this reduces the body's need to secrete digestive enzymes. If your body has to rely too much on its own digestive enzymes, the result is more stress being placed on your system and organs, leaving less time and energy for other jobs such as rebuilding and replacing damaged cells and tissue or keeping your immune system strong

A diet that consists mainly of cooked food requires the pancreas to work overtime and this extra effort leaves it "exhausted". If the pancreas is always having to produce enzymes that could naturally come from food it will eventually cease to function normally. The late famous Dr. Edward Howell suggested that when a person eats an enzyme-poor diet, consisting of lots of cooked food, the result is illness, stress and a shortened life span. Taking a high quality digestive enzyme supplement can help avoid depletion of the body's own enzymes, thereby reducing the stress of production. It has been estimated that 60 to 80% of our daily energy needs are used during the digestive process. With so much energy needed in such a basic process, it is no wonder why digestive enzyme supplementation is so important.

Nature did not design us to make all of the enzymes necessary for digestion, but intended us to ingest most of our enzymes from raw foods. For thousands of years our ancestors ate mostly raw and fermented meats, dairy and plant foods and had few if any of the health problems we have today. Heating food above 116 degrees destroys the vital enzymes in food, forcing us to rely on our own enzymes reserves to finish the job of digestion. This presents a real problem for modern man, since cooked food dominates our diets.



Even if we eat mostly a raw food diet most of our fruits and vegetables travel sometimes 1000's of miles and may take weeks before it gets to our table.

Enzyme levels of just picked fruits and vegetable drop 50% within a few days so it is not hard to understand why our raw food today is sadly deficient in enzymes. Systemic enzymes work throughout the body in every system and organ. They deliver nutrients to the cells and tissues for nourishment and regeneration. They initiate and speed up chemical reactions within the cells for energy production and detoxification. They provide the energy we use to rebuild muscles, cells, nerves, tissues, bones and glands. They are instrumental in balancing the hormones, regulation the immune system and producing the neurotransmitters that modulate our emotions and enhance mental clarity.

They reduce inflammation, activate healing and relieve pain. They clean up the blood of undigested food particles and pathogens. They regulate metabolism to maintain optimum weight and they rejuvenate aging muscles, joints and skin.

Proteolytic enzymes such as protease break down protein. Taken with meals, protease enhances the breakdown and assimilation of dietary proteins. When proteolytic enzymes are taken between meals, on an empty stomach, they can cleanse the bloodstream and tissue of foreign proteins including pathogenic bacteria, viruses, parasites and fungal strains that cause respiratory illness.

Viruses are encapsulated by a protein coating that enables them to attach to and invade healthy cells. Proteolytic enzymes can digest this protective protein coating and render viruses inert and harmless to the body. Most cells have a protein coating that is vulnerable to proteolytic enzymes. This is possible due to the lock and key mechanism that ensures that enzymes target and destroy only substances that are harmful to the body, while leaving healthy cells alone.

Due to their anti-inflammatory properties, systemic enzymes have been used successfully to reduce inflammation and speed the healing of wounds and injuries. Systemic enzyme therapy has also effectively been used to treat arthritis and other autoimmune conditions due to the enzymes ability to target excess antibodies and modulate the immune system.

Our bodies need enzymes in order to carry out our most basic functions. Enzymes provide the metabolic energy that fuels efficient use of nutrients. As we age and go thru life, enzyme production declines and our needs for enzyme supplementation increase. It is as simple as that.

I hope this brief discussion helps everyone to realize the importance of enzymes, what they can do, and what they will do to bring true health to anyone who will take them.

\*The statements contained in this material are opinion, based on extensive medical research and data, are meant for informational purposes only, and are not a substitute for practical medical evaluation or care. Discuss this information and options with your doctor before starting any diet or supplement regimen.