The Best Kept Secret of Health

by Patrick J. McDonald

Enzymes... its all so complicated! I can't remember how many times I have heard that. The point is that it's true. It is complicated and unless you can simplify the process in your mind, more than likely it will remain that way. Professional people require long terminologies because of the depth of the discussion they enter into. As dog owners most of us don't need to get quite as technical as they do, but it helps to have a general idea of how and why things work. Understanding the importance of the role of enzymes should make it all a little clearer. The intent is not to diminish the importance of other properties in the chain of events that take place in the digestive tract, but to focus on one segment of it. Since our focus is on dogs I will try to restrict any examples to them.

Enzymes are these marvelous super microscopic protein molecules that are responsible, or take part, in every phase of every living things life. Professor Moore from the University of Oxford described enzymes best as "*particles of matter charged with biotic energy"*. From the moment of conception of life to the very end of life, enzymes have a role to play. When sperm enters an egg for fertilization it is an enzyme that bores the hole that allows the sperm to enter making the union for life possible. When a living thing dies, enzymes that have laid dormant in the body become activated and start the process of decomposition/digestion returning the once living organism back to the earth in its broken down form. Metabolic enzymes provide the spark of life to keep our hearts beating and our brain functioning. Digestive enzymes break food down into its various components so the body can recognize and utilize the food. Without enzymes we could not absorb vitamins, form hormones, or clot blood when the need arises. It does not take much imagination to realize what biological disorders living things face when there is an absence or deficiency of enzymes. There have been hundreds of studies where one group of animals were fed a diet rich in enzymes while another group of the same species were fed the exact same diet with the enzymes destroyed. The outcome was always the same. The group that received the enzymes thrived while the group that was deprived of enzymes failed to thrive. To go into the details would require endless pages of text and a life time of study. The documentation is there. Research it for yourself it will become very obvious. Scientists are making new discoveries about enzymes all the time and have only touched the tip of the iceberg.

The first step to understanding is to start thinking at a cellular level, extremely small. Enzymes are protein molecules. A molecule is anything consisting of two or more atoms. If a molecule is comprised of a thousand molecules or more it is called a macro molecule. Although macros are considered large molecules they are still very small. Enzymes rarely, if ever, get that large.

The reason the size of the enzyme is important goes back to an on going discussion of where enzymes do their work. Studies documented in the book *Food Enzymes for Health & Longevity* by Dr. Edward Howell (recommended reading) have shown that enzymes work throughout the entire body. The question that was posed by the skeptics was, do digestive enzymes work in the blood stream and can they be absorbed into the blood stream? The answer is yes. When enzymes are absorbed into the bloodstream they continue to break down any of the substrates that they are specifically designed to deal with, they are very substrate specific. Each enzyme has a specific type of food that it seeks out and proceeds to break down into a recognizable form that the body can use such as proteins, fats, carbohydrates, sugars, fiber, etc. Enzymes actually cut apart the bonds of the various components of food molecules. There are even enzymes designed to digest and remove worn out enzymes. At one time the disbelievers claimed that enzymes were too large of a molecule to be

absorbed into the bloodstream. The research has shown this was an erroneous assumption. Studies have already revealed over 3000 different very specific enzymes and researchers believe this is just the beginning.

In the ideal world animals would achieve complete digestion or breakdown of protein, fats and carbohydrates in the initial stages of the digestive tract. This would basically entail the mouth, stomach, small and large intestine. Digestive enzymes are at work from the second a plant is picked, begins to ripen or when a particle of animal protein has ceased to thrive as part of the living animal. This process is accelerated when a rise in temperature takes place as it enters the animal consuming the food. Other enzymes are then secreted by the body to join in the breaking down of the matter as it travels through the digestive tract. When we feed our dogs enzyme deficient diets, which means anything cooked or processed with heat, the ideal situation of complete digestion cannot even come close to being achieved. Whenever food has been heated to 118° F. the destruction of enzymes has for the most part taken place. Processed dog foods do not contain any enzymes.

Canines have been designed by nature for over 30 million years of evolution to eat a variety of enzyme laden foods. Think about it, dogs don't cook! They have not been blessed with the ability or the strength in their enzyme producing organs, the pancreas and liver being the main ones, to make up for an enzyme deficient diet. This is why it is so important that enzymes continue to do their work in the blood stream. If undigested food is allowed to circulate throughout the bloodstream problems that are often perceived as allergies manifest as skin problems as well as increase the creation of pro-oxidants. If there is an insufficient intake of anti-oxidants to combat the oxidative stress, the manifestation of cancerous tissue is a probability.

The scavenging or cleaning up of the bloodstream with enzymes is a proven therapy that often gives relief from the misery of these so called allergies. The word allergies has become a cover-all term for anything wrong with the skin or a certain unwanted reaction that cannot be diagnosed and connected to any specific cause.

The refusal to accept this probability has resulted in the overuse of anti-biotics and steroids. Common sense dictates that these problems that have been created by enzyme/pro-biotic deficiencies needs to be corrected by the reintroduction of pro-biotics and enzymes. Instead modern medicine tries to combat or repair the problem by doing the opposite. They restrict the use of enzymes and attempt to kill all bacteria, be it good or bad. Undigested food in the blood and the redundancy of the same incorrect food day in and day out has resulted in these so called allergies. In reality they are merely built up intolerances to undigested, incorrect food in the blood stream. Proteins putrefy, fats turn rancid and carbohydrates ferment. How can there not be a problem with all these toxins being circulated throughout the body? Protein must be converted into an amino acid and fat and carbohydrates must be converted into glucose before the body can recognize and utilize them. When the kidneys and liver are forced to filter out and deal with excess undigested foods and toxins, it is no wonder they begin to fail. How often has the statement been made that too much protein causes problems. I believe too much unbalanced, undigested protein contributes to these problems. Dogs are designed to eat protein as their main source of nourishment. The dog food companies would have you believe they need high levels of simple carbohydrates. This comes from a constant need to create a cheaper dog food for the general public to buy. The concern is not for the welfare of the dog. Cheap dog food can only be made by using cheap ingredients. Carbohydrates are among those ingredients along with unsuitable proteins and fats used by dog food manufacturers. Price determines what goes into a dog food. It costs money and a little work to maintain a dog properly. If you cannot accept this,

perhaps owning a dog would not be such a good idea. Inexpensive dog food can be the most costly mistake you can make. The vet bills to deal with the problems it will create can run a person into the poor house.

In reference to the statement that *we have bred the need for raw foods out of the dog*. No amount of breeding in recorded time will ever change one important fact and that is *evolutionary changes take millions of years to occur.* There is no breed immune to this fact of nature. The second misconception is that we have bred dogs to be able to digest very high starch carbohydrates such as corn and wheat. Again, show me where and when the wolf, the ancestor of our modern dog, has maintained health on a diet of these food types. This usually leads to the comment, "they eat the stomach contents of the prey" and in this way they receive these grains. Yes this may be true, but what prey including the deer has eaten much corn or wheat? It has never been a natural/primary food source for any of the prey species, even in the short time it has been cultivated by modern man. This is still not enough time for evolutionary changes.

With regards to dogs that are known as hard keepers. Perhaps you have owned or known one. Sometimes a breeder will label a dog a hard keeper just because no matter what they are fed they just don't thrive. It is true that dogs will inherit their metabolic function from their ancestors or are they just inheriting an ability to produce enzymes? Could it be that we accuse a dog of a deficiency when in actuality he has received all the tools to thrive for a normal dog and we are just feeding them the wrong diet? On the other hand some dogs are super dogs, easy keepers. This is a wonderful thing in an animal and as breeders we should strive to reproduce this. I believe these dogs have inherited an extra ordinary enzyme potential or the ability to produce excess amounts of enzymes. Their organs have the ability to produce enough enzymes to deal with the poor diets they are fed. This poses the question *how long can they tolerate the diet?* The animal will pay in latter life for the bad foundation of nutrition that has been built under him. Even though an animal may thrive on a diet lacking in enzymes while they are young, the quality and longevity of latter life may not be there. Organs are similar to muscles. They need to be exercised to become stronger. Strength is acquired when the organ/muscle rests and rebuilds itself. Imagine working a muscle/organ 24 hours a day, calling upon it to produce enzymes constantly to make up for the enzyme deficit in the diet. How long do you think it will last? Over working of the organs eventually breaks the organ down and never gives it a chance to rebuild. These organs will slowly lose their ability to perform their function. In the case of the pancreas, bouts of pancreatitis can occur and the liver can develop cirrhosis with eventual failure of one or both organs in the long term.

I would ask you to look at things as a whole and in complete cycles. Consider the predator/prey relationship. These life cycles have existed for millions of years. When a predator consumes prey the enzymes that once belonged to the prey now become part of the predators reserve of enzymes. You could say they have been recycled as part of the predators energy source. After the remnants of the once whole food is excreted, enzymes continue, with help from bacteria, to break the food down even further returning it back to the earth from where the energy originally came. This completes the cycle of birth, life and finally death. Man has often decided he can improve on mother nature and this usually results in disaster. Our egos often prevent us from seeing the big picture. Why, if it isn't broke, must we constantly be trying to fix it?