

Enzymes ^[1]

Dear Alice,

I know that enzymes are an essential part of the digestive process. For the most part, they are found in raw fruits and vegetables only; very few exist in cooked, dried, or otherwise processed foods. I have also been told that when a meal does not contain sufficient enzymes for proper digestion, the body is forced to use its internal (METABOLIC) enzymes to help out. Now the body only has a limited lifetime supply of these metabolic enzymes and when that runs out (depending upon the individual's diet) it can lead to all sorts of degenerative diseases. Can you please comment on this? Also, regarding enzyme tablets: most tablets I see in health food stores only have one, maybe two enzyme varieties per tablet. But as I understand it, we really need the full variety (8 to 12 I think) to ensure proper digestion of all the "dead" foods we eat. Is this true?

— Wanna Know

Answer

Dear Wanna Know,

Enzymes certainly are an essential part of the digestive process, but fortunately, enzymes are not in finite supply in the body. The body's genetic materials contain all the information needed to make as many enzymes as needed for digestion and absorption.

Any enzymes present in the foods you eat will NOT aid the body in the digestive process. Enzymes are proteins (just like meat, fish, chicken, etc.), and so they are treated as such by the body after being ingested. Upon entering the stomach, all proteins are broken down into amino acids by digestive chemicals. These amino acids are then absorbed and utilized by the body to make new proteins, provide energy, and repair damaged tissues.

Enzyme tablets sold in health food stores will probably not enhance the digestive process, since they too will presumably be broken down into their constituent amino acids. These tablets will contribute a tiny amount of additional amino acid to your diet, but not much else.

Lactase is one of the few enzymes which is not manufactured in *some* adults in sufficient quantities. Lactase breaks down lactose, the major source of carbohydrate in milk, and people

with insufficient amounts of the enzyme will experience diarrhea, bloating, and cramping after consuming foods and beverages containing lactose. "Lactaid Milk" and "Lactaid Tablets" are two products on the market which have the lactase enzyme in them to aid in dairy product digestion. These products are exceptions to the "enzymes are digested" rule.

In addition to lactase insufficiency, there are some other diseases, cystic fibrosis for example, where the body is unable to secrete enough of the digestive enzymes manufactured in the pancreas. In these instances, a health care provider may prescribe enzyme replacement therapy or other medications as appropriate. The enzymes tablets prescribed by providers are specially coated to withstand the high acidity of the stomach, and dissolve in the small intestine where they then aid in digestion.

The number of nutrition supplements and products continues to grow. It may be best to consult your health care provider or a registered dietitian for more information before investing large amounts of time or money.

Hope you found this response easy to digest.

Alice!

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