

## Digestive enzymes

Digestive enzymes are secreted in very specific amounts and at very specific times. Different food types require different digestive secretions. Carbohydrate foods require carbohydrate-splitting enzymes, whereas protein foods require protein splitting enzymes, etc. It is the knowledge of the digestive process that has led many health practitioners to promote efficient food combining, the rules of which are briefly explained below:

**1.** Carbohydrate foods and acid foods should not be eaten at the same meal. Do not eat bread, rice or potatoes with lemons, limes, oranges, grapefruits, pineapples, tomatoes or other sour fruits. This is because the enzyme, ptyalin, acts only in an alkaline medium; it is destroyed even by a mild acid! Fruit acids not only prevent carbohydrate digestion, but they also produce a fermentation. Oxalic acid, for example, diluted to one part in 10,000 completely arrests the action of ptyalin. And, there is enough acetic acid in one teaspoon of wine vinegar to completely halt salivary digestion. Dr Percy Howe of Harvard Medical School states:

"Many people who cannot eat oranges at a meal derive great benefit from eating them fifteen to thirty minutes before the meal". Herbert Sheldon, author of 'The science and fine art of food and nutrition' reports: " I have put hundreds of patients , who have told me that they could not eat oranges or grapefruit, upon a diet of these fruits and they found that they could take them. Such people are in the habit of taking these foods with a breakfast of cereal, with cream and sugar, egg on toast, stewed prunes and coffee, or some similar meal."

Tomatoes should also never be combined with starchy food as the combination of the various acids in the tomato, which are intensified on cooking, are very much opposed to the alkaline digestion of starches. They may be eaten with leafy vegetables and fat foods.

What all this tends to mean is that people who say they cannot eat oranges or grapefruit as it gives them gas, could be blaming the fruit, when the problem may lie with the escape of starches and the bodies release of pancreatic juice and intestinal enzymes to break them down.

In cases where there is hyperacidity of the stomach there is great difficulty digesting starches. Fermentation and poisoning of the body occurs along with much discomfort. This is because the digestion of carbohydrates (starches and sugars) and of protein is so different, that when they are mixed in the stomach they interfere with the digestion of each other. An acid process (gastric digestion) and an alkaline process (salivary digestion) can not be carried on at the same time in an ideal way in the stomach. Before long, they cannot proceed at all , as the rising acidity of the stomach soon completely stops carbohydrate digestion. The highest efficiency in digestion demands that we eat in such a way as to offer the least hindrance to the work of digestion.

**2.** Do not eat a concentrated protein and a concentrated carbohydrate at the same meal. This means do not eat nuts, meat, eggs, cheese, or other protein foods at the same meal with bread, cereals, potatoes, sweet fruits. Cakes, etc. Candy and sugar greatly

inhibit the secretion of gastric juice and markedly delay digestion and if consumed in large quantities can depress the stomach activity.

**3.** Do not eat two concentrated proteins at the same meal. Avoid nuts and meat, or eggs and meat, cheese and nuts, cheese and eggs, meat and milk, or eggs and milk or nuts at milk at the same meal. Milk, if taken at all, is best taken alone. The reason for avoiding eating these combinations is because each protein requires a specific character and strength of digestive juice to be secreted. Eggs require different timing in stomach secretions than do either meat or milk.

**4.** Do not eat fats with proteins. This means do not use cream, butter, oil, etc with meat, eggs, cheese, nuts, etc. Fat depresses the action of the gastric glands by delaying the development of appetite juices and inhibiting the pouring out of the proper gastric juices for meats, nuts, eggs or other protein. Fats may lower the entire gastric tone more than fifty per cent.

**5.** Do not eat acid fruits with proteins. This is to say, oranges, tomatoes, lemons, pineapples, etc., should not be eaten with meat, eggs, cheese or nuts. Acid fruits seriously hamper protein digestion and results in putrefaction. Milk and orange juice, while by no means an indigestible combination, is far from a good combination. Orange juice and eggs form an even worse combination.

**6.** Do not consume starch and sugars together. Jellies, jams, fruit, butter, sugar, honey, syrups, molasses, etc., on bread, cake, or at the same meal with cereals, potatoes, etc., or sugar with cereal, will produce fermentation. The practice of eating starches that have been disguised by sweets is also a bad way to eat carbohydrates. If sugar is taken into the mouth it quickly fills with saliva but no ptyalin is present which we know is essential for starch digestion.

**7.** Eat but one concentrated starch food at a meal. This rule is more important as a means of overeating than as a means of avoiding a bad combination. While overeating of starches may lead to fermentation, there is no certainty that the combination of two starches will do so.

**8.** Do not consume melons with any other foods. Watermelon, muskmelon, honeydew melon, cantaloupe and other melons should always be eaten alone. This is possibly due to the ease and speed in which melons decompose.

**9.** Milk is best taken alone or let alone. Milk is the natural food of the mammalian young, each species producing milk peculiarly and precisely adapted to the needs of its young. It is the rule that the young take the milk alone, not in combination with other foods. Milk does not digest in the stomach, but in the duodenum, hence in the presence of milk the stomach does not respond with its secretion. The use of acid fruits with milk does not cause any trouble and apparently does not conflict with its digestion.

A suggested combination of meals is included in the following plan of eating three meals a day :

### Breakfast

Fruit. Any fruit in season may be used. It is suggested that not more than three fruits be used at a meal, as, for example, grapes, well ripened bananas and an apple. It is well to have an acid fruit breakfast one morning and a sweet breakfast the next. In season breakfast may be made of melons. In the winter months, one or two dried fruits such as figs, dates, raisins, prunes, etc., may be substituted for the fresh fruit.

### Lunch

A large raw vegetable salad of lettuce, celery, and one or two other raw vegetables plus avocado and alfalfa sprouts or nut and seeds. As an alternative, a vegetable salad (omitting tomatoes), one cooked green vegetable and a starch.

### Dinner

A large raw vegetable salad (if nuts or cottage cheese are to be used as the protein, tomatoes may be used in this salad), two cooked non-starchy vegetables and a protein.

*Fat meats, sour apples, beans, peanuts, peas, cereals, bread and jam, or hot cakes and honey or syrup, are notoriously slow in digestion and are frequent sources of discomfort and putrescent poisoning.*

