The Importance of Proper pH

What is pH? The term pH stands for “potential” of “Hydrogen”. It is the amount of hydrogen ions in a particular solution. The more ions, the more acid the solution. The fewer ions the more alkaline (base) the solution. pH is measured on a scale of 0 to 14 with seven being neutral . The lower the pH number the more acid it is and the higher the number the more alkaline. For example, a pH of 3 is more acidic than a pH of 5 and a pH of 9 is more alkaline than a pH of 6.

What is normal? As humans, a normal pH of all tissues and fluids of the body (except the stomach) is slightly alkaline. The most critical pH is in the blood. All other organs and fluids will fluctuate in their range in order to keep the blood a strict pH between 7.35 and 7.45 (slightly alkaline). This process is called homeostasis. The body makes constant adjustments in tissue and fluid pH to maintain this very narrow pH range in the blood.

What are the results of being too acidic? To be too acidic (or too alkaline) in the body can have far reaching consequences. For example, if the blood becomes too acidic:

1) It takes some of the alkaline forming elements from the enzymes in the small intestine to stay balanced. The small intestine then becomes too acidic to digest foods optimally. The pancreas, gallbladder and liver are then forced to make up for this deficiency in order to metabolize foods properly. This has a direct bearing on metabolic enzyme production, which is literally involved in every biochemical reaction in the body. The result is lowered immune function, fatigue, hormonal imbalances, absorption and digestive problems, etc.

2) The bones will leach calcium, the most alkaline mineral. This can lead to reduced absorption of supplemental minerals and bone density problems.

3) Insulin levels increase and fat is stored instead of being metabolized. When malnutrition or starvation sets in, the body becomes acidic and as a safety, insulin is over produced so that all available calories are stored as fat for future use. As a result, weight gain is common and weight loss becomes more difficult.

4) Electrolyte imbalances occur which have a direct bearing on the “fluid transport system”. Electrolytes are important because they are what the cells, especially the nerve, heart and muscle cells use to maintain voltages across there cell membranes.

5) Additional stress is placed on the kidneys, gallbladder, pancreas and other organs.

Similar problems may occur if we become too alkaline, though this is much less likely. Obviously maintaining the proper pH in the blood, digestive tract, tissues and fluids is essential to support optimal health.

What are some symptoms? Symptoms include but are not limited to heart burn, acid reflux, indigestion, weight gain, difficulty losing weight, poor metabolism, mineral deficiencies, constipation, fatigue, brain fog, frequent urination, hypoglycemia, hormonal imbalances, sore muscles and the list goes on.

What are contributing factors? Factors include stress, environmental pollution, not enough or too much exercise, and the most important factor, diet. The more acid forming foods we eat, the more acidic we become. The more alkaline forming foods we eat, the more alkaline we become. Generally speaking, fruits and vegetables are more alkaline forming, while meats, sugar, caffeine, beans, dairy and grains are more acid forming. Notice the term "generally speaking". Gabriel Cousins, in his book "Conscious Eating," mentions the complexity of this topic. His research showed that about 30% of the people he counseled nutritionally responded the exact opposite way. In other words, the fruits and vegetables made them more acidic. So we must be willing to take the time to determine individually, for ourselves, what foods will work best for *us*.

How can I tell? One of the best ways to determine whether or not we are maintaining a proper pH is to test the urine. This is accurate because one of the most efficient ways for our bodies to maintain balance is to utilize the kidneys. If we become too acidic, our kidneys will eliminate acid through the urine. This will help make the blood more alkaline. So the urine pH will be acid. The urine then is an excellent indicator to determine if our diet is too rich in foods that make us acidic or alkaline.

Though many people believe the best indicator of urine pH is the first thing in the morning, we believe it is best to test the pH of your urine for 24 hours. Simply keep track of the pH throughout the day and then average it out. This too can be a great education for you and your loved ones. For example, if you do this for several days you will quickly determine foods and drinks that make you more acidic or alkaline. You will then be able to make adjustments to stay in balance through dietary changes.

The optimal urine pH is between 6 and 7 on the pH scale. If your average is below six, you are too acidic. If your average is above seven you are too alkaline. In either case you should immediately consider lifestyle changes to support the proper pH for your body.

What about the pH of saliva? Most authors agree that the pH of saliva is an indicator of alkaline reserve and the condition of the pH of the cells. The body does not create alkalinity it has an alkaline mineral reserve based on the dietary intake of alkaline foods. The healthy pH of saliva tested first thing in the morning or on an empty stomach is between 6.2 and 7.2. After a meal it should become even more alkaline. One theory is that if the pH is between 5.8 and 6.2 the body is too acidic with little alkaline reserve left. If the morning pH is below 5.8 with no rise after meals there is no alkaline reserve left and the body is extremely acidic.

What dietary and lifestyle changes can help? Diet is probably the most important change. Avoid the over consumption of meat, alcohol, soft drinks, caffeine, coffee, most nuts, eggs,

vinegar, sauerkraut, ascorbic acid, pasteurized milk, cheese, white sugar and medical drugs. **Add** more ripe fruit, vegetables, soy beans, bean sprouts, water, raw milk, onions, figs, carrots, beets, miso, calcium citrate and vitamin K to your diet.

It also helps to reduce anxiety when possible and include moderate exercise in your daily regimen. Strenuous exercise can actually contribute to an acid environment in the body because of the increased production of lactic acid.

How can *pH Basic* help? *Enzymedica's* ***pH-Basic*** is specifically designed to raise the pH of people who are too acidic. It contains a synergistic blend of minerals, enzymes, super-foods and herbs. It can be taken for maintenance or therapeutically to elevate your body's pH if you are finding it difficult to make an impact through diet.

What Makes pH Basic effective? *pH-Basic* has taken two years to formulate. When Enzymedica first tried to balance pH with enzymes and minerals, success was temporary. Though short term success was possible with ingredients like coral calcium it could not be sustained. It has taken two years of research and "trial and error" to come up with what we feel is the most effective alkalinizing supplement on the market for some of the following reasons.

1) The **mineral blend** consists of the same minerals often depleted in an acid environment and make up the electrolyte mineral ratio. They are amino acid chelated and pharmaceutical grade for safety and absorbability.

2) The **organic super food** (greens) is called hydrilla. Hydrilla is naturally alkaline, it is natures most potent source of calcium and one of the richest plant sources of many trace minerals and amino acids.

3) The **enzyme blend** is specifically formulated to promote the uptake of the minerals, herbs and greens.

4) Two **herbs** are added (marshmallow and papaya leaf extract) to help soothe the common discomfort associated with high acidity, acid reflux.

Is there anything else that can help? In addition to dietary intake, it is important to ensure the proper digestion and assimilation of the foods consumed. One of the best ways to stay balanced is to take plant-based enzymes with every meal. These enzymes assist the body in breaking down and assimilating the nutrients in the foods you eat regardless of pH. Recall at the outset it was mentioned that if the blood becomes too acidic it leads to an environment in the digestive tract that is less than optimal. This leads to additional stress to the pancreas, liver and gallbladder, which in turn leads to metabolic enzyme deficiencies. This can often be overcome with a high potency, digestive enzyme blend such as Enzymedica's **Digest** or **Digest Gold**. Enzymedica uses what is called *Thera-blend* enzymes. These *Thera-blends* represent multiple strain enzyme blends for optimal activity in both an acid and alkaline environment.

References:

Alkalinize or Die *by Felicia Drury Kliment*
Conscious Eating *by Gabriel Cousins*
The pH Miracle *by Robert O. Young, Shelley Redford Young*
Biobalance *by Rudolf A. Wiley, Rudolph A. Wiley*

Track Your pH

Time / Day	Urine pH	Foods Eaten	Drinks Consumed	Saliva pH