

Ionization and the Hydrogen atom; THE DOORWAY TO DIGESTION

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Abstract. Digestion truly begins with the acid-alkaline balance in the body which in turn is determined by the presence or absence of hydrogen. An extensive tabulation of the different combinations of acid or alkaline urine and saliva and the ramifications thereof is presented. A parallel is drawn between pH and ionization and how to test for these kinesiologically.

Background

We are actually walking chemical laboratories. There are a great many atomic elements involved in the many chemical reactions that take place in the body. None is more heavily involved than HYDROGEN and it is not always involved as an atom. Sometimes it is in the form of an ion. An ion is an atom which has lost most of its parts or has gained some extra ones. An atom which has gained too many electrons is a negative ion. A positive hydrogen ion has just one proton. The involvement of this hydrogen ion in the nutrition of the body is so important that a special means of measuring it was developed and called the "pH scale".

The chemistry definition of pH is "the pH is the logarithm of the reciprocal of the molar concentration of the hydrogen ion". (ref. 3) By keeping this definition in mind you can appreciate the significance of small changes in pH readings. For example, 6.0 is not just one times more acid than 7.0, but rather 10 times, and 5.0 is 100 times more acid than 7.0.

With pH paper in hand the physician has untold possibilities of gaining insight as to the patient's body chemistry function, and with a little knowledge, what to do about it to bring it into optimum balance. The urine, the saliva and even the feces can be measured and monitored with little effort. Due to the low cost of the pH paper and the ease of performing the test patients can even take these measurements at home and report the finding to their physician. The pH reading is not a measurement of the amount of acids and alkalines found in the body, but is a measurement of the resistance between the two. Basically the urine is a reflection of the

left side of the body and the saliva is a reflection of the right side of the body. Your digestive system has two sets of enzymes and secretions. One set is very acid and the other set is very alkaline. These two sets must be balanced for the maximum nutritional efficiency to take place within the body. The gastric juices of the stomach are the main source of your acid secretions, whereas the liver, bile and the pancreatic secretions are the main source of your alkaline secretions. If a person was too alkaline it would mean that the liver, bile and pancreatic secretions were too strong. If a person was too acid the gastric juices of the stomach would be too strong.

Once the pH starts to improve, digestion becomes more efficient. The person is going to be picking up more vitamins and minerals from their food which had been spilling off into the urine. As these things start to occur you are going to begin to understand why we refer to the pH as having power or energy. The pH of your digestive system is really the key to good nutrition, which of course, affects the entire body for good.

Some authorities state that alkaline enzymes are necessary for the assimilation of the water soluble vitamins such as the B and C families, while acid enzymes are necessary for oil soluble vitamins such as A, D, E, K and F. According to "Applied Nutrition" by Hawkins (ref ?), the saliva represents the retention values such as the retention of minerals; whereas, the urine represents the elimination of minerals. If the urine pH is the furthest off from normal, the body is not retaining its minerals. If the saliva pH is more alkaline than the urine pH is acid, we would say that the pH is trying to build up a

mineral reserve. If the person is double alkaline (urine and saliva), then the body is still trying to build mineral reserves. If a person is double acid it would show the body not being able to retain minerals, probably for many years and is seen in various types of arthritis. If the urine becomes alkaline and the saliva is acid (reverse split), this indicates a very serious stress upon the body. The body is losing strength at both ends and drawing upon its own reserves. Another theory is that when the urine is farther out of balance than the saliva, it indicates a metabolic problem. When the saliva is further out of balance than the urine, it indicates a respiratory problem.

What is normal:

To pursue this we need to establish what is normal or ideal for the urine and saliva pH. Plus we are going to break it down into eight basic combinations. These are as follows:

1. Both pH's are too alkaline.
2. Both pH's are too acid.
3. Urine only is too alkaline.
4. Saliva only is too alkaline.
5. Urine only is too acid.
6. Saliva only is too acid.
7. Urine is too alkaline and saliva is too acid.
8. Urine is too acid and saliva is too alkaline.

The normal range of the difference between the two pH's is .5 to 1.5. The farther apart they are the most exhausted the patient is. The best combination is for the urine to be slightly acid and the saliva to be slightly alkaline. The greater the gap between the pH's numbers, the greater the gas we will find being formed. The normal range of urine is 6.2 to 6.6 with 6.4 being ideal. The normal range of the saliva is 6.6 to 7.0. (ref. 1)

The eight basic combinations:

We will now talk about the eight basic combinations, giving some examples of each and their ramifications. Following this we will provide you with a chart for dietary corrections of each combination. The kidneys are the most important organ in the urine pH regulation. The thyroid, adrenals, lungs and lymph system all work together to maintain this function. Exercise is one of the best

ways to promote the flow of lymph to help absorb oxygen which seems to balance the pH. However, there are many other things involved in the pH balance which has to do with food. The saliva pH's usually indicate the condition of the liver and pancreatic enzymes. When we suggest the use of certain foods to bring the pH's back into balance, it does not necessarily mean that the foods are acid or alkaline, but rather, the food's chemical reaction within the body. If a person has a pH of 6.4 for both the urine and the saliva and they are extremely ill they may need immediate medical attention. You never want the saliva to become more acid than the urine. This is called a reverse split.

The saliva pH is basically an indicator of the condition of the liver; particularly the bile, but also can indicate secretions of the pancreas and large intestine. The saliva is the end of the lymph system. There is twice as much lymph as there is blood. Many feel that the saliva is indicative of the acid level of the blood since they seem to run parallel. The saliva basically reflects the amount of CO₂ that is produced by the tissues in relationships to the amount of oxygen that is consumed. When the CO₂ is too high in the blood stream you find the saliva pH becoming more and more alkaline. The higher the alkalinity the more energy metabolism problems are involved. Since the saliva represents the right side of the body this indicates that the carbohydrate and fat metabolism will be affected.

I. Both pH's are too alkaline:

Obese people usually have high alkaline saliva and urine. If both the urine and saliva pH are alkaline then conception will not take place. If conception is desired, then the pH should become acid. If they become alkaline after conception then the pregnant woman may crave pickles or citrus fruit which can help rebalance her pH's. The double alkaline people will crave sour things. Double alkaline people have a very slow digestive system and are probably constipated. Prune juice should be used freely. Double alkaline can produce pain and/or numbness in the left arm and should have vitamin E and dolomite added to the diet. Both pH's being high can indicate heavy metal poisoning. Vitamin C is good for the double alkaline patient. Double alkaline

patients can use more fiber in their diet in form of bulk; such as bran and psyllium. If the body is too alkaline you can add phosphorus. Iron is recommended for double alkaline pH's. By adding sulphur foods which are high in acid and low in amino acids will help raise nitrogens.

II. Both pH's are too acid:

Acid urine and acid saliva (double acid) is found in the person who is having stomach ailments and irritated intestinal wall. If the body is too acid you need calcium.

III. Urine only is too alkaline:

If the pH is too alkaline, the digestive enzymes are weak and slow and so there is not enough power to break down the more complex atomic structures. The person with high pH's may have regular evacuation, but the slowness of this digestive process results in a gradual building of undigested material that literally coats the walls of the intestines with plague. So a highly alkaline pH is a precursor to a slow metabolism. This coating of the bowel can affect the brain and many other organs. This person could be eating too many cooked foods or junk foods. This pH would result in prostate congestion, low sex drive and fatigue. Men will have backaches and women will be nervous, tense and excitable. This is often due to a lack of phosphorus and/or digestive enzymes and germanium. In an alkaline system you cannot absorb zinc, copper, iodine and iron. These conditions start at about 7.4. Alkaline urine results from an over excitability of the central nervous system, and in extreme cases it can even result in convulsions and respiratory problems. Alkalinity restricts the production of white blood cells and enhances the proliferation of red corpuscles. This also indicates a torpid (toxic) liver. There is also a tendency for low HCL, bladder stones, acute indigestion, parasites and skin problems. This condition results when magnesium and sodium are expelled. Osteo arthritis can also result. A pH of 6.8 or above would indicate a need for colonics and zinc especially in men. If they swing into alkaline range of 6.6 to 7.0 then add prune juice after breakfast.

IV. Saliva is too alkaline:

Overweight people usually have an alkaline saliva. The liver has become overactive in producing alkaline enzymes. The more alkaline the saliva is, the greater the liver problem. This is the opposite extreme of the liver problem with an acid saliva. At a pH of 7.4 to 7.5 we start to see a problem with anemia because iron cannot be assimilated. The spleen is affected also and problems start to manifest like bronchial problems, asthma and upper lung problems. By this time vitamin A is not being assimilated. Copper is needed to assimilate vitamin A and help assimilate iron; as is molybdenum. At 7.4 the kidneys are under stress probably due to dehydration. This person needs to drink more liquids. If the pH gets up to 7.7 or 7.8 there is a real danger of hemorrhaging especially if there is an acid urine. A saliva pH of 8.0 or above can indicate scarring of the liver. The adrenals may shut down at 8.2 resulting in acidosis and a coma. If the saliva is above 7.3 or below 5.5, Mexican foods, hot peppers and horseradish will stimulate the flow of lymph.

V. Urine only is too acid:

When the pH gets too low on the acid side, this will predispose a person to being a fast metabolizer. These same enzymes are reacting too fast so that the food moves through the body so fast that the body cannot assimilate the necessary nutrients. This is usually true of people who are eating from morning till night. So highly acid systems tend to leach the minerals out of the body; whereas, alkaline systems try to store them up. Below 5.6 the person becomes more nervous and emotional. Below 5.2 the digestion is so fast the person can hardly assimilate anything. These people are usually heavy meat eaters and crave alot of sweets. Acidity in the urine means too much cell destruction is going on. These people are usually sluggish. Diabetics fall into this category. Headaches are often a result. The fatiguing effect on the body is due to lack of oxygen. The lower the pH becomes the more tired and irritable the person becomes. They usually have low back pain. According to nutritionist, Clarence Johnson, the ICV can be affected as well as being subject to

diverticulitis, eye problems, vitamin D deficiency and arthritic tendencies. Calcium creates an alkaline effect, therefore, acidity in the urine indicates a calcium deficiency. A high phosphorus content can be indicated by acid urine. Acidosis actually means that the body is becoming more cannibalistic. Alkaline secretion of the gastric system along with an acid urine creates gas. Never give lecithin if urine is below 6.0, only if over 6.4. It causes an acidifying affect on the body. Below 4.8 the person is extremely tired and in a danger zone. Give vitamin D, fish, sunshine and zinc.

VI. Saliva only is too acid:

If the saliva pH is below 6.2 the liver and pancreas enzymes are speeding up the movement of food. The liver is toxic and the bile is weak and the system is loaded down with contaminating materials. Lymph congestion usually follows and acid saliva and the alkaline enzymes in balancing gastric juices have lost their effectiveness. Thus, a person is not getting much energy out of their food. These people cannot handle fats. There is also a reflection of junk foods or high phosphorus content in their diet. The emotions of fear or worry can also make the saliva acid. Tobacco adds to this condition. Acid saliva also indicates the calcium reserve is used up. Dental decay is common in these people. Cancer has been found in people with an acid saliva as well as glaucoma. These people will have a sympathetic dominant nervous system and are on the hypo side. Allergies often accompany acid saliva; especially potatoes, wheat and even some dairy products. If the saliva gets down to 5.4 to 5.7 they will be very nervous. At 5.2 we usually see the sclera turning yellow. Saliva below 6.4 means extreme stress is taking place. You should recommend cream cheese, bonemeal and glandulars such as liver, spleen and thymus. With a pH below 6.4 do not let them fast on liquids only, but rather add 6 to 10 grams of vitamin C.

VII. Urine is too alkaline and saliva is too acid:

Acid saliva and alkaline urine are found in people with lung problems. These people are

often diagnosed as having emphysema or asthma. If the urine is above 8.0 and the saliva is below 6.4 the same person may be experiencing lymph shutdown and mucous membranes are dry and shutdown. This person needs vitamin A. The saliva becomes thicker as it becomes more acid. Vitamin A helps this also.

VIII. Urine is too acid and saliva is too alkaline:

An urine pH of 5.4 and a saliva pH of 7.8 has been found in individuals with leukemia. An extremely acid urine and an extremely alkaline saliva can lead to hemorrhaging anywhere in the body. (5.8 urine and 7.9 saliva for example). Vitamin A and D taken together can help pull the pH's together. Manganese also helps pull the numbers together.

Feces pH can also be measured:

If a person is having a hard time breaking down their fats, have them check to see if their fecal matter floats when they have a bowel movement. If it does, then you know that they are not breaking down their fats. The normal pH of a person's fecal matter is 6.8 to 7.0. If the pH is 7.0 or above this would indicate that the person was low on HCL and that the bile was very low. Another test for normal HCL is to do the beet juice test. Drink 4 ounces of beet juice. If the color red passed off in the urine, then the person is low in hydrochloric acid. Hydrochloric acid should break down the red color in the beets in the stomach. If the pH is 6.7 or below it indicates that the pancreatic activity is low. Alkaline tightens up the parasympathic nervous system to raise blood pressure. If pulse pressure is low (less than a 40 point spread) add potassium. This also helps low blood pressure. Safe levels of fluids intake daily would be one ounce for every two pounds of body weight. If you weigh 160 pounds then consume 80 ounces of liquid per day. You can tell if there is a pancreas shutdown by a layer of fat on top of the urine. If the person is dehydrated, it will alter the urine/saliva pH equation and it will be hard to find a test muscle that is strong in the clear.

Measuring ionization to help determine pH:

By measuring kinesiologically the ion balance in a patient's body we can gain insight as to their nutrition needs and consequently their pH levels as the different nutrients will either raise or lower the urine pH. For this purpose we use the urine pH of 6.4 as a starting point.

If the field of otolaryngology it has been shown by instrumentation that the nasal cycle changes approximately every 20 minutes (ref. 4) meaning that we receive a preponderance of our air we breathe in through one nostril for 20 minutes and then it changes over to the other nostril for 20 minutes etc., etc. This would explain why we all have had the experience of having one nostril occluded during an episode of acute rhinitis only to find that suddenly, with no apparent explanation, the occluded side opens up and the previous patent side becomes occluded. This research also showed that the amount of air passing through the nostril was not dependent on nor in proportion to the size of the lumen of that nostril. (ref. 4) This same instrumentation showed that positive ions came through the right nostril and that negative ions came through the left nostril. Thus it becomes established that the turbinates of the right nostril form an ionization chamber specializing in positive ions and the turbinates of the left nostril form an ionization chamber specializing in negative ions. (ref. 4)

The above data is a good basis for why it is important for us to have a balance of positive and negative ions. Such as a weather front moving through the area where we live which is preceded by an abundance of positive ions and succeeded by an abundance of negative ions, or being around electrical equipment or internal combustion engines which gives off an abundance of positive ions. If we have a balance of ions in our body to start with, then we are not bothered by a temporary exposure to a preponderance of one kind or another of ions. But if we have an imbalance of positive or negative ions to start with and then we are exposed to a condition such as above where there are a preponderance of one kind or another of ions. Then we become further

imbalanced as the original condition becomes exaggerated.

In applied kinesiology it has been established that if a patient breathes in through the left nostril and out through the right nostril and this weakens a previously strong indicator muscle, that patient is low in positive ions. An interesting observation in this patient is that they will therapy localize with the palms against the body only. If the condition is reversed, meaning that breath in through the right nostril and out through the left nostril weakens a previously strong indicator muscle that patient is low in negative ions and will therapy localize only with dorsum of the hand against the body.

So for therapy localization purposes only, it is important to establish whether or not there is an ionization problem in the patient. I have had a few patients who were low in negative and positive ions and hence would neither therapy localize palms up or palms down! When you fix this kind of patient that other doctors have failed on, you are a hero. The obvious advantage here, is if you will; establish ionization first in your patient then you do not have to therapy localize everything twice, meaning once palms up and once palms down.

I have had some remarkable success with patients who remarked to me that their symptoms came only when it rained or that they felt particularly elated or particularly depressed at the beginning of a storm or at the end of the storm, or that weather changes always made a difference in how they felt, just by checking and correcting ionization.

The original correction for this condition was to have the patient breathe in through one nostril only according to which side they showed a need for. More recent investigation shows that breathing in through the right nostril only, activities the left brain and thus is conducive for stressing left brain activities and vice versa, meaning that breathing in through the left nostril only activates the right brain and is conducive for stressing right brain activities. (ref. 2) The catch to all this is that it has a temporary effect only.

It was Dr. John Stoutenburg who established in the early 1970's that the taking of calcium would provide positive ions and that the taking of potassium would provide negative ions. The big advantage being that now the correction would stay fixed.

Current observations:

Since I do a lot of work with nutrition in my office I have been exposed to the work of Dr. Herschel Robertson from Higgensville, Missouri, I became aware that there is a difference between having too many negative ions or not enough positive ions, which previously was treated as the same condition. Or vice versa, that there is a difference between having too many positive ions or not enough negative ions which also was previously treated as the same condition.

This can be established kinesiology by having the patient breathe in through one nostril only and testing your indicator muscle and then having the patient breathe out through one nostril only and testing your indicator muscle. Whereas before this was all one test. Now we can establish if the condition is due to too many positive ions (breathe in through the right nostril only) or is the condition due to too few negative ions (breathe out through the left nostril only). Perhaps the condition is due to too many negative ions (breathe in through the left nostril only) or it could be due to too few positive ions (breathe out through the right nostril only).

It has been established that one form of a particular mineral has a positive reaction in the body and raises the pH whereas another form of the same mineral has a negative reaction in the body and lowers the pH. It was on this basis that I established which form of the mineral to use by breaking down the ionization testing into the above four parts. By following these methods I found that too many positive ions would respond to potassium gluconate, but would not respond to potassium citrate for example. I found that too many negative ions would respond to calcium gluconate, but would not respond to

calcium lactate for example. I also found that too few positive ions would respond to calcium lactate, but would not respond to calcium gluconate for example. And finally I found that too few negative ions would respond to potassium citrate, but would not respond to potassium gluconate, for example. (I keep repeating, "for example," since there are other forms that will also work.)

For the purpose of learning this phenomenon and using these principles in your office I have devised the chart shown on the following page.

Conclusion:

The indication of all this may be overwhelming, but the testing procedure is simple and is not time consuming at all. With pH paper handy in your office and a few muscle tests you will have gained great insight into the patient's chemistry and what to do about it, even if you have to refer to the charts contained in this paper, as I do. Remember to be able to pick the correct calcium or potassium supplement not only improves the patient's ability to utilize calcium or potassium, but also improves the utilization of all nutrients due to the changing of the pH. So we are really fine tuning the entire body chemistry, and that is worth doing.

References

1. Crofoot, John, *Introduction to Ionization*, 1985
2. Ferguson, Marilyn, *Brain Mind Bulletin*, Vol. 10, No. 1, 1984
3. Hess, Fred, *Chemistry Made Simple*, Doubleday, 1955
4. *Handbook of Ophthalmology and Otolaryngology*, American College of Ophthalmology and Otolaryngology, 1970

NASAL IONIZATION, MINERAL BALANCE and pH DIRECTION		
Excess negative ions	In through the left nostril	Raises pH Calcium Oxide Calcium Carbonate Calcium Gluconate
Deficient positive ions	Out through the right nostril	Lowers pH Calcium Lactate DiCalcium Phosphate
Excess Positive Ions	In through the right nostril	Raise pH Potassium Oxide Potassium Carbonate Potassium Gluconate
Deficient Negative Ions	Out through the left nostril	Lowers pH Potassium Citrate Potassium Aspartate

CHART FOR DIETARY CORRECTIONS	
<p>1. To acidify both pH's</p> <p>Watermelon Seed Tea Yellow Dock Apple Cider Vinegar Cranberry Juice</p>	<p>5. To alkalize urine only</p> <p>Black Cherry Juice Apple Juice Bananas Acerola Powder</p>
<p>2. To alkalize both pH's</p> <p>Chaparral Lemon Juice & Water Dill Pickles or Vinegar Prune Juice Apricots Apple Cider Cauliflower and Corn</p>	<p>6. To alkalize saliva only</p> <p>Green Peas Strawberry Guava Juice Cataplex F</p>
<p>3. To acidify urine only</p> <p>Arrowroot and Cornstarch Popcorn Walnuts Corn Syrup</p>	<p>7. To acidify urine/ alkalize saliva</p> <p>Red and Green Cabbage Hominy Any bread toasted Baked Beans Cornmeal Cottage Cheese White Sugar</p>
<p>4. To acidify saliva only</p> <p>Sauerkraut Asparagus Goat's Milk Onion Powder</p>	<p>8. To alkalize urine/acidify saliva</p> <p>Blue Cheese Fresh Carrot Juice Tomato Juice Fresh Orange Juice</p>

ACID-ASH OR BASE-ASH FOOD GUIDE

When food is dried to an ash, the reaction will be either acid, alkaline, or neutral.
The following Chart is useful in regulating the food intake in this regard.

(1) FRUITS Alkaline Ash	(2) VEGETABLES Alkaline Ash	(3) STARCHES Acid Ash	(4) PROTEINS Acid Ash	(5) NEUTRAL Ash
Apples * Apricots Bananas Berrirs Citron † Cranberries Currants Grapefruit Grapes Lemons * Melons Oranges Pears Persimmons Pineapple † Plums † Prunes Tangerines	Almonds Artichokes Asparagus * Beans, lima Beets Beet tops Brussel sprouts Cabbage Carrots Cauliflower Celery Cucumbers Endive Lettuce Limes Mushrooms Olives, ripe Onions Parsley Peas, fresh Peas, dried Peppers, sweet * Potatoes	Bran Bread, white Bread, rye Bread, whole wheat Corn, dried Cornstarch Crackers Flour, white Pastries Spaghetti	Bacon Baking powder biscuit Barley Beef Cheese Chicken Clams Crab Duck Eggs Fish Lamb Liver Lobster Oysters Pork Scallops Shrimp Veal	Butter Buttermilk Corn Oil Cottonseed Oil Cream Custard Honey Ice Cream Lard * Milk, whole Olive Oil Onions Sugar Syrup

* Reduces acidity of urine

† Increases acidity of urine

Recommendations:

1. Eat only foods listed in Column ____.
2. Eat only one of the foods in Column ____ at any one meal.
3. Do not eat foods in Column ____ until advised.

For further information, see "Biochemistry" by Kleiner and Orten, 6th Edition

CARBON DIOXIDE

PATHOLOGICAL RANGE 24 - 32

INCREASE

ALKALOSIS:

- A. Above 32 mEq/L
- B. Due to tetany, acute vomiting, excessive alkali therapy, oxygen therapy, hypercorticoadrenalism, typhus fever, pyloric obstruction, congenital intestinal alkalosis, emphysema and other respiratory conditions.

(Order Pulmonary Function Test)

DECREASE

ACIDOSIS:

- A. Mild acidosis: 18 - 24 mEq/L
- B. Moderate acidosis: 14 - 18 mEq/L
- C. Severe acidosis: less than 14 mEq/L
- D. Found in diabetes, nephritis, severe diarrhea, hemorrhage, eclampsia, renal rickets, and many toxic conditions; also occurs after severe exercise, excessive intake of acidifying salts, and anesthesia.

OPTIMUM CARBON DIOXIDE VALUES (26 - 28)

Lung Assessment (O₂ - CO₂ Activity)

Elevated CO₂ = Alkalosis

Decreased CO₂ = Acidosis

Related Tests: Chlorides, Sodium, Potassium

Elevated CO ₂ values may indicate the need for the following nutrients:	Depressed CO ₂ values may indicate the need for the following nutrients
Lung Vitamin A Pyridoxine B ₆ ⁺ More Grains & Dairy More Deep Breathing	Lung Vitamin A Adrenal More Fruits & Vegetables Less Grains & Meats More Deep Breathing