

Why Patient pH Is So Huge

"Patient not Getting Better? This Could Be Why."

I've discussed the value of making sure our patients are alkaline for many years. But just to review, when we are acidic it is more difficult to detoxify, we have far more free radicals, we demineralized bone by pulling key minerals into suspension as buffers, enzymes and hormones don't work as well, and our cell membranes become less efficient.

Speaking of cell membranes with an increased acid load, hydrogen ions displace intracellular potassium and magnesium. But if a buildup of toxins, weaker bones, excess free radicals and inefficient cell membranes are not bad enough, an acidic chemistry affects the amount of oxygen our hemoglobin carries. This means that hemoglobin can absorb oxygen from the lungs and begin to carry it throughout the body. However, in an acid chemistry, oxygen is released prematurely and never gets to outer cells or tissue.



What thrives in an anaerobic state? Bacteria, viruses, and fungus. Remember, pH is a logarithmic calculation. So small movements in pH represent huge shifts in hydrogen ion concentrations. Optimal blood pH is 7.35-7.45. So a pH change from 7.35 to 7.25 is a big movement. 7.35 to 7.15 is huge and to 7.05 is massive. Note that at 7.05, the pH is still not technically acid, but is relatively acidic compared to the optimal blood pH.

This concept of optimal pH goes beyond the hemoglobin's ability to hold on to

oxygen. In a state of metabolic acidosis everything takes more energy. It's like pushing a boulder up hill.

Let's take enzymes. Even if all the nutrient cofactors are available to catalyze the enzymatic reactions, the enzyme activity will be greatly diminished if the body pH is not optimal.

Right now in the anti-aging field, hormones are the big buzz. But if hormones and their receptors are outside their optimal pH, they will still function, but at a reduced rate.

For example, at the wrong pH, it may take twice as much of the same hormone to induce an equal response. Maybe we should be balancing pH before we embark on hormone replacement therapies.

Blood pH is regulated by the lungs, kidneys, and a series of intracellular and extra-cellular buffers. The intracellular buffers include proteins and phosphates. The extra-cellular buffer is the bicarbonate ion. When you hear the word buffer think of it like a sponge soaking up extra hydrogen ions. You can use urine, saliva and blood to screen for an overly acidic chemistry.

I heard an interesting lecture from Dr. Carlos Viana, C.C.N. and O.M.D. After being in this field for over 40 years he shared a simple compilation that has brought consistent results and has served as a great monitoring tool for him and his patients. It comes from a simple blood test. Divide sodium by chloride. An optimal value would be 1.4. So if a patient has a sodium of 140 with a chloride of 100, $140/100=1.4$.

Dr. Viana commented that someone with a score of 1.35 is mildly acidic and is already beginning to mobilize calcium out of their bones. Patients will notice an increase of tartar buildup around their teeth, have an increase of kidney stones, and often wake up stiff in the am. Patients with a score of 1.3 are very acidic and have periodontal disease as well as a host of metabolic conditions. He suggests increasing the buffering agents that reduce the effects of an increased concentration of hydrogen ions.

The best buffering agents are plants. We've been told 10 servings of fruits and vegetables are optimal but some researchers are suggesting that since our food is so deplet-

ed of key minerals we should aim for 12 servings per day.

Of course, we want to reduce the amount of acidic foods that are over consumed, by that I am referring to simple carbohydrates and processed foods laden with chemical additives, flavoring agents, etc.

What else can we do to increase alkalinity? Biotics makes three outstanding products: NitroGreens, Potassium HP with magnesium and a powdered form of vitamin C called Mixed Ascorbates. You can see links below on how to use them in combination with other urine and saliva indicators as well.

Dr. Harry Eidenier has articulated other correlations in blood, in his excellent *work More than Just a Bunch of Numbers, Making Sense of Blood Chemistry Results*. This text comes free with a seminar taught by Dr. Abbas Qutab called "Mastering the Science of Integrative Blood Chemistry". Dr. Qutab does an excellent job helping doctors to integrate laboratory testing into their practice, see links below for seminar dates.

I hope I am painting the picture that with an acidic pH, you can recommend bottles and bottles of supplements but the patient will recover very slowly until you address the root cause, metabolic acidity. With so many physiologic factors tied into pH, I encourage you to start measuring your patients.

By the way, changing pH values for the good or the bad takes time, they don't happen overnight. So these simple indicators will help you motivate your patients and give you the tools you need to monitor progress.

Thanks for reading this week's Tuesday Minute edition. I'll see you next Tuesday.

pH Treatment Ideas and the Salt & Soda Bath

Blood pH

I am often asked “what are the main things we can do to promote health and increase wellness?” The foremost thing we can do is to keep the body in homeostasis and let it do what it does best; repair, rebuild and replenish. The first key to homeostasis is correct pH. The more one understands physiologic pH the more you will be convinced about its absolute necessity. Without the correct pH, hormones and enzymes cannot function in their maximum capacity. The optimal pH in oxygenated arterial blood is 7.355 - 7.45, optimal pH in carbon dioxide laden venous blood is 7.31 to 7.4.

Blood pH is extremely tightly regulated, so even a drop to 7.25 brings the body to a relative acidic state. For example: the drop from 7.3 to 7.2 will stimulate osteoclastic activity in the bone (bone degradation), inhibits osteoblastic activity (bone rebuilding), and induces a multifold bone mineral loss. Reduced intracellular pH causes swelling and impaired mitochondrial function. This means a reduction in the ability to make more energy and an increase in energy utilization. Reduced intracellular pH brings increased intracellular free water with less efficient metabolism, protein synthesis, and increased membrane free radical production.¹

Another factor to consider in this picture is free radical generation. As the pH drops into the “relative acidity” range, there is increase in free radical generation.¹ One way to determine pH is with first morning urine. First morning pH reflect the body’s ability to buffer excess acidity or net acid excess. This means that a pH below 6.5 indicates that the buffering functional reserve of the body is deficient. The beauty of this test is that it is something that the patient can do for themselves to monitor their own diet

The following are things which increase the buffering ability of the body and reduce the net acid excess or relative acidity.

- 1) The most important change is in your diet, so increase fruits and vegetables particularly the ones which yield the highest alkaline ash. Consider a green drink like **NitroGreens®** to supplement in winter, ½ to 1 scoop with beverage of choice, use 1 - 3 times a day.
- 2) Stop all processed meats and refined carbohydrates, i.e. bagels and pasta.
- 3) Use Celtic Salt. Celtic sea salt is loaded with approximately 22 bio-available minerals. With excessive doses of any type of unrefined salt, serum sodium and chloride levels should be assessed with hypertensive patients.
- 4) Increase purified water to at least 1 quart per 50 lbs of body weight.
- 5) **Potassium-HP® (with Magnesium)** use ½ tsp for 1 week. Increase to 1 tsp for 1 week and add a tsp per week up to 3 tsp. Have the patient monitor first morning pH and if it goes over 8.0 reduce Potassium-HP® (with Magnesium) until it goes back to 7.0 -7.5
- 6) Consider the Vitamin C Flush as outlined by Drs. Jaffe and Cathcart, see page 2.
- 7) Use salt and soda baths every 3rd day, see page 2.

- 8) Achieve optimal blood levels of vitamin D. Use the 25-hydroxy vitamin D test and increase vitamin D until the level is between 50-80 ng/ml. The usual dose to achieve this is between 2 and 5 drops of **Bio-D-Mulsion Forte**. Each drop is 2,000 IU.
- 9) Make sure digestion is optimized, especially HCL, which assists with mineral absorption which helps buffer excess metabolic acids.
- 10) Take magnesium to bowel tolerance. Often stubborn cases of metabolic acidosis can be reversed with the correct levels of magnesium. Use **Mg-Zyme™** which contains 100 mg of mg per tablet or **Aqua Mg-Cl™** 200 mg per tsp (must use juice to mix as this product is very salty). Start with 400 mg and increase every few days until bowel tolerance is reached. Take magnesium at night before bed.

Vitamin C Flush

The Vitamin C Flush is another great way to reduce cellular acidity and assess your individual vitamin C levels. Vitamin C in the ascorbate form is an excellent buffer and helps regenerate or reactivate many of your antioxidants. Here's how to assess your levels.

- When a patient has a day off...
- Use 1 tbsp of **Mixed Ascorbate Powder™** with small amount of juice and water and drink every 30 minutes for 2 hours. If no results, change timing to every 15 minutes.
- Continue until bowel tolerance is experienced. Bowel tolerance is described as explosive diarrhea.
- Calculate the number of tablespoons to achieve bowel tolerance and multiply by 75%, i.e. 12 tbsps times 75% would be 9.
- Use this number (above ex. 9 tbsps) and mix in juice and water drink throughout the day.
- Continue on this dose until diarrhea occurs again and decrease by 75% again, or wait one month and retest.

Salt and Soda Alkalizing Bath

1 cup Epsom salts and 4 tbsps of baking soda in a hot bath – soak for 30-40 minutes. Drink as much water as you can. Make sure the water is as hot as you can stand it. The magnesium in the Epsom salts will diffuse into the body and toxins exchanged. Use this bath 2-3 times per week.

Baking Soda and Lemon Cocktail

Another systemic way to alkalize comes from George Goodheart, DC.

Take the juice of ½ lemon and 1 tsp of baking soda in 8 oz of water, two times per day. Take the other ½ of the lemon and rub all over your body. Get into a hot tub of water as hot as you can stand it. Soak for 20 minutes drinking water while you are in the tub to stay hydrated.

References:

- (1) Brown, Dr. Susan E., Russell Jaffe, MD, Ph.D., "Acid-Alkaline Balance and its Effect on Bone Health," International Journal of Integrative Medicine. Vol. 2 No. 6, November/December 2000.
- (2) Tennant, MD, MD(H), MD(P), Jerry, Healing is Voltage: The handbook, 2nd ed., 2011.

90% Of Americans Are Low In Potassium

"I challenge you to try this simple at-home test, it might surprise you."

Most Americans have three things in common. Most have a "relative acidic" imbalance that is robbing minerals from their bones, most have dietary deficiencies in magnesium, and as recently discovered, most are deficient in potassium.

In regard to relative acidity and pH, Dr. Alex Vasquez shared a position paper on urinary alkalization written by emergency room physicians. These doctors worked with suicide patients that had been acutely poisoned or had cases of industrial poisoning. Emergency room physicians found that when urinary pH was 7.5, the body was able to excrete toxins more readily. I don't know about you but I am always looking for ways to encourage daily detoxification.

In regard to potassium, according to the Food and Nutrition Board of the Institute



of Medicine of the National Academies February 2004, "Adults should consume at least 4.7 grams of potassium per day to lower blood pressure, blunt the effects of salt, and reduce the risk of kidney stones and bone loss." This is a very dramatic statement because that means 90% of Americans are below this goal.

We know an acidic chemistry can result in bone loss as the body uses "bone resorption" as a means to buffer the excess acids which main-

tains homeostasis. People who are acidic also tend to have elevated levels of cortisol. Chronically increased cortisol further promotes degradation of bone which causes calcium to spill in their urine and potentiates kidney stones.

Latent acidosis places a drain on potassium storage as potassium is also used as an important buffer. Indirectly then, sufficient amounts of potassium help prevent bone loss.

Here's another dietary buffer you wouldn't think of, citrate. One molecule of citrate can buffer three hydrogen ions. The combination of potassium and citrate may be more important than if they were isolated. One study showed that potassium citrate can lower cortisol levels. Consider this, an "acidic chemistry" is a stress on the body. By increasing natural buffers like potassium, magnesium and citrate, we can reduce stress and also reduce cortisol. When you think about acidic chemistries what conditions come to mind? That's right, hypertension, diabetes and heart disease.

Here's an interesting study that supports higher levels of potassium. A meta-analysis of prospective studies in the "Journal of the American College of Cardiology" 2011 involving 247,510 patients showed higher dietary potassium intake, 1.64 grams per day or more, is associated with a 21% lower rate of stroke. This study was based on 1.64 grams per day. Remember the Food and Nutrition Board of the Institute of Medicine is suggesting 4.7 grams per day.

So how can we use this information clinically? Dr. Vasquez assisted Biotics Research to develop a powder that contains 1200 mg of elemental potassium as potassium citrate per teaspoon, called Potassium-HP (with magnesium). Each teaspoon also contains 120 mg of magnesium in the citrate/malate form. It mixes extremely well with water and has almost no taste. Add it to a water bottle with a little juice and you have a perfect alkalizing agent. Encouraging patients to eat more fruits and vegetables or to drink a green drink can be challenging, but

patient compliance with this product is a slam dunk.

Dr. Vasquez suggests patients measure their urine and shoot for the aggressive goal of 7.5, just like the emergency room doctors suggested in their work. That way we can dump the maximum amount of toxins and are careful to avoid too much potassium.

I want to challenge you to get some pH test strips and start measuring your own urine. You may be surprised. Unless your diet is pristine, you will find you have an acidic chemistry.

Use the product yourself and begin to see the changes. Start with ½ teaspoon of Potassium-HP (with magnesium) daily for a week. Add another tsp based on your urine pH. Slowly increase to 2 - 3 tsp. Remember, start slow. This gives the kidneys time to adapt. If pH goes over 8.0 reduce the dose. pH is designed to move slowly. Don't expect too much too fast. Our goal is 4.7 grams per day including food. There's a link below that will support our discussion.

I want to encourage you to take another step on your own Wellness journey. A week doesn't go by that I don't hear about a new toxin in our environment. The key is making sure we can flush toxins and not retain their negative effects. Once you feel the benefits yourself, asking your patients to take this small step toward better health will be a snap.

Thanks for reading this week's edition. I'll see you next Tuesday.

Potassium-HP[®]

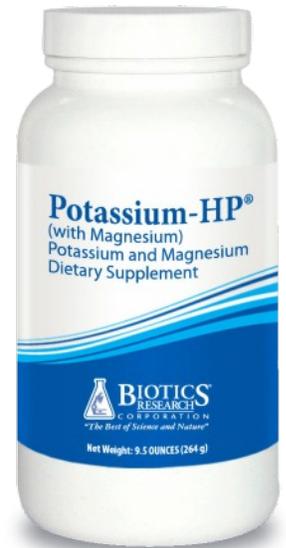
(with Magnesium)

Potassium-HP[®] (with Magnesium) is an easy to use, high potency mineral supplement powder which dissolves readily in water. Each scoop supplies 1,200 mg of elemental Potassium (as potassium citrate) and 120 mg of elemental Magnesium (as magnesium citrate malate).

According to the Food and Nutrition Board of the Institute of Medicine of the National Academies (Dietary Reference intakes: Water, Potassium, Sodium Chloride and Sulfate. February 11, 2004), "Adults should consume at least 4.7 grams of potassium per day to lower blood pressure, blunt the effects of salt, and reduce the risk of kidney stones and bone loss. However, most American women 31 to 50 years old consume no more than half of the recommended amount of potassium, and men's intake is only moderately higher. There was no evidence of chronic excess intakes of potassium in apparently healthy individuals and thus no UL [upper limit of intake] was established."

Each bottle of **Potassium-HP[®] (with Magnesium)** supplies 60 servings.

To place your order for **Potassium-HP[®]** or for additional information please contact us below.



WARNING: Ask a doctor before use if you have kidney disease or a potassium-restricted diet. High-potency potassium products should only be used under the advice and supervision of a healthcare professional. Minor gastrointestinal (GI) complaints have been reported by those taking significant amounts of potassium citrate. These may be reduced by taking this product with food or reducing the dose. If GI complaints persist, discontinue the use of this product. Long-term use can result in metabolic alkalosis. Renal insufficiency and certain potassium-sparing drugs will increase the risk for elevated blood potassium, which can be dangerous. Patients should not use potassium-rich salt substitutes without the advice of their healthcare professional while taking this or any high-potency potassium product.

Potassium-HP[®] is available in 9.5 ounce bottles (#1718).

Supplement Facts

Serving Size: 1 scoop (approx. 4.8 g)
Servings Per Container: 60

	Amount Per Serving	% Daily Value
Magnesium (as magnesium citrate malate)	120 mg	30%
Potassium (as potassium citrate)	1200 mg	34%

This product is gluten and dairy free.

Product may settle, shake well before use.

Scoop included.

RECOMMENDATION: Mix one (1) scoop of Potassium-HP[®] with six (6) ounces of water each day as a dietary supplement or as otherwise directed by a healthcare professional.

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For Adult Use Only
KEEP OUT OF REACH OF CHILDREN

Store in a cool, dry area.

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