

ZETA POTENTIAL

By, Michael Hendrickson

Never heard of it? Not surprised, when I mention it to some people their thoughts turn to Zeta-Reticuli, a binary star system about 39 light years away. There are even stories about the inhabitants of this star system, the Zetas, visiting our planet. I assure you that is not what this is about. This is not about some far off star system, rather it is about your cardiovascular system, your inner space if you will.

ZETA POTENTIAL is a modern day chemistry term used to describe electrokinetic potential in colloidal systems. So what does that really mean? It simply refers to the degree of repulsion of similarly charged particles in a solution. Your blood is a solution comprised of mainly red blood cells, white blood cells, platelets and plasma. Ideally you want your red blood cells repelling each other and not sticking to each other. If I were a red blood cell I would want others to give me distance and not infringe on my personal space so I could get my work done. In this example your bloodstream would be experiencing high Zeta Potential, which is ideal.

It is important to address what a red blood cell is and how it functions. Red blood cells are made in the bone marrow by stem cells at the rate of 2.4 to 3 million per second. There are approximately 25 trillion red blood cells in the human body with a very short life span, 120 days on average. Once they have stopped functioning properly they are sent to the spleen where they are phagocytosed by macrophages (broken down) and the hemoglobin released back to the liver. Unlike all other cells in the body, red blood cells have no nucleus thereby leaving plenty of room for hemoglobin. Hemoglobin is an iron bearing protein that has the ability to transport oxygen to other cells in the body. It does this by allowing oxygen to bind, ideally, to each one of the four iron atoms contained in each hemoglobin molecule. Besides transporting oxygen to the cells in your body, red blood cells are also partially responsible for recovering carbon dioxide, a byproduct of cellular metabolism and returning it to the lungs to be exhaled. The balance of carbon dioxide, in the form of carbonates, is carried by the plasma component of the blood back to the lungs to be disposed of. Red blood cells are biconcave disks which allows them to flex as they flow through the circulatory system.

So let's take a look at the typical day in the life of a red blood cell and for this example we are going to assume the bloodstream is expressing excellent Zeta Potential. Metaphorically, think of your red blood cells as automobiles. When you go into town in the morning there are traffic jams everywhere, it's bumper to bumper and it takes you forever, that is a perfect example of low Zeta Potential. When you go to town later in the day and cars are spaced apart and traffic flows well that is a perfect example of high Zeta Potential. We will start our red blood cell in the lungs and for practical purposes let's call him Tom, I will explain why later. Red blood cells make round trips through your body and end up right back where they started, that is why it is called a circulatory system.

Ok, Tom starts in the lungs. Through the action of the heart, now loaded with oxygen, Tom gets pumped out of the lungs and into the body where he has a substantial amount of work to accomplish delivering all of his oxygen before he returns back to the lungs again. Along with the plasma that is carrying the vital nutrients, minerals, hormones, vitamins and antibodies the blood has to circulate around the body delivering all these things to various tissues and organs and at the same time pick up carbon dioxide along the way (carbon dioxide is a byproduct of cellular metabolism) so that when he gets back to the lungs he can offload the carbon dioxide for the lungs to exhale and then he starts all over again. But Tom is not alone, he has to work alongside approximately 25 trillion other red blood cells along the way. If

that was not difficult enough the blood is also responsible for and has to somehow find the time to regulate the PH and maintain homeostasis and temperature. This is quite the job, tougher than anything you have ever had to do and the thing is Tom has to do this 24 hours a day, seven days a week, nonstop, no coffee breaks, no breaks for meals, no sleep, makes me tired even thinking about it.

Tom only has a limited amount of time to complete this round trip through the circulatory system, any idea how long this trip takes? On average about 20 seconds or so, and that is if the roads are clear. Unbelievable isn't it? I think now you have a very good understanding of how this works if conditions are at their best. Unfortunately for most all of us that is hardly the case, we are making it harder for Tom to do his job than you might well imagine.

In a case where low Zeta Potential exists it's just like the traffic jam, Tom can't get around very well. Red blood cells have a negative charge on their external membranes which causes them to repel each other. Ever play with two magnets and try to push them together. In one position they repel themselves in the other position they attract. If you remember anything from your science classes you were taught that opposites attract and likes repel. They also say that about relationships but that has no bearing here.

In your bloodstream there are two types of values, + and -. Items with a - value or negative charge are called anions and items with a + value or positive charge are called cations.

So to keep it simple, anions repel each other but cations are attracted to anions (opposites attract). Anions in the bloodstream are good because they have the same negative charge as your red blood cells and thereby repel each other like an invisible force field creating space for everyone to get around easily. The trouble comes when you introduce too many cationic substances into your bloodstream, guess what happens? The cationic substances with their positive charge begin sticking to the negatively charged particles in your blood and start clogging or aggregating the red blood cells together in large clumps. The red blood cells are no longer free to carry out their jobs independently without being stuck to a whole bunch of other red blood cells. This creates low Zeta Potential.

A quick example, drink a soft drink, because of all the cationic chemicals in a soft drink, additives, preservatives, etc., once these get absorbed into your bloodstream it will cause your red blood cells to aggregate in large clumps for up to two hours after you have finished drinking it. That is just one soft drink! One of the worst cations you can put in your body is Aluminum, it is trivalent in its power or three times as strong as other cations when it comes to binding to all the good anions in your blood -stream. Many drinks of all sorts come in aluminum containers. Cook on or in an aluminum pan and you are transferring massive amounts of cations to the food you are eating. Antiperspirants or deodorants that have aluminum in them are extremely detrimental, once applied under arms the dangerous aluminum cations are immediately absorbed into the bloodstream. The drinking water in cities with water treatment plants contain aluminum as it is used to help purify recycled water into drinking water. Aluminum grills on barbecues and aluminum utensils of all types should be avoided. Meals cooked in aluminum containers in the oven, aluminum foil, I mean it's everywhere.

OK, so cationic substances cause your red blood cells to clump together, what is the specific danger in that? Plenty, once the red blood cells start aggregating together the individual surface area of each red blood cell is severely diminished since it is being covered up by the ones next to it. Red blood cells use their hemoglobin to transport oxygen. You just can't pick up a full load of oxygen if you are pushed up tight against the red blood cell next to you. Remember, each molecule of hemoglobin in the red blood cell can ideally carry up to four atoms of oxygen if their membranes are fully exposed to do so. It is just not going to happen if you and your fellow red blood cells are all clumped together, the oxygen simply cannot get in as effectively and your red blood cells will travel through your body with only a partial supply of the precious oxygen the cells in your body need to be healthy. Not only can't they do their oxygen deliveries

properly they can't take the bad carbon dioxide away efficiently either.

Let's look at it this way, our friend Tom the red blood cell is once again in the lungs. This time he has to start out in a bloodstream whose Zeta Potential has fallen dramatically due to a very poor diet of fast food and bad choices, did I mention Smoking and Alcohol consumption, extremely bad for your Zeta Potential. This time Tom starts in a large clump with a bunch of other red blood cells. The heart now has to work harder thereby raising the blood pressure in order to push this now thickened or clumped up blood around. Poor Tom is in the middle of a clump being pushed and squeezed on all sides and can hardly do his job except when he can occasionally break free long enough to at least accomplish a little bit of his work. But, it doesn't last long, another clump catches up to him and he is forced into the clump ahead of him that is blocking the way. Eventually that clump squeezes its way through the intersection and bangs into another one and by the time he finally gets back to the lungs he hasn't accomplished near the amount of work he was supposed to. What does this mean to you? Very bad news! All of your organs and bodily tissues start lacking in the very nutrients, minerals, vitamins, hormones, oxygen etc. that they need not only to survive but to work efficiently. You also become oxygen deprived on a cellular level, your body's PH becomes more acidic creating an ideal environment inside your body for all types of diseases and varieties of cancer. Cancer flourishes in a low oxygen, low PH (acidic) environment. Conversely, it fails to thrive in a body rich in oxygen with a high PH (alkaline).

We are going to give Tom another chance, again starting in the lungs. Tom is in a large group all clumped together at the start. Off they go and at the first intersection to turn from the main artery there is a huge pile up and some don't make it, they have to continue on without him. Tom luckily made it into a smaller vessel and after an extreme amount of pushing and shoving was on his way, although it still be in a smaller clump of red blood cells. Bad news ahead, a large traffic jam, they push through it and finally get to the point where the capillaries intersect and Tom thinks great! I am going to get off here and go down to the end of the finger. He fights his way around the corner, goes a short distance and he's stopped in his tracks. Capillaries are very narrow, slightly larger than the diameter of a red blood cell and as clumped up as they are after a couple soft drinks and a cigarette maybe even a few glasses of wine, there is no way they are going to make it. It's single file only down here and he doesn't have a prayer of making it. So back they go to the lungs, battling all the way being pushed and squeezed as they go. Upon arrival he has very little carbon dioxide to offload and he has to get psyched up to do it again. Unfortunately that finger Tom could not get to, well it's going to be cold since blood helps to regulate body temperature, no blood, no warmth, and in this body with low Zeta Potential the hands and the feet are going to remain cold.

You see it is just like a traffic jam in this sense. You have a truck driver with a load of fresh produce on board trying to make all his required daily deliveries in a specified amount of time. He can't do it because there were traffic jams everywhere. Back to the warehouse he goes with a truck still partially loaded with food.

Occasionally several of these clumps get together and form a large aggregated clot and this can get pushed anywhere in the body, if it makes it to the brain it causes a stroke and in certain circumstances can kill you.

There are a few other things that internally can affect your Zeta Potential. Dehydration is very bad for the bloodstream, the blood becomes much thicker. Hydration with reverse osmosis water rather than tap water with all its cationic contaminants is what you want. Coffee, soft drinks, beer, wine, energy drinks, tea, fruit juice do not count towards your daily required intake of purified water, most of these count against it. Some of the aforementioned actually cause dehydration. As a rule you should drink half your weight in ounces of purified water daily. If you weigh 150lbs you should be drinking 75 ounces of purified water daily. If you find yourself thirsty during the day you are already dehydrated. Most hunger

sensations are actually your body calling for more water, drink some water instead of snacking and watch the hunger pains diminish. You should never drink thirty minutes before or after a meal and only four ounces of liquid with a meal. Drink any more than four ounces and you are diluting your stomach acid and raising the PH in your stomach which in turn inhibits your digestive enzymes from working resulting in poor to incomplete digestion of the food you have just eaten. Digestive enzymes only function in a very low PH (acidic) environment and normal body temperature. Never drink anything cold or containing ice during a meal, lowering the temperature inside the stomach will have the same effect of inhibiting your digestive enzymes from working. However, drinking hot water during a meal enhances digestive enzyme activity and is beneficial. If the food you eat does not get digested properly there is only one other way for it to pass through your system and that is by a process called fermentation which makes you feel bloated after a meal and produces a lot of gas. Diluted or insufficient stomach acid is the main cause of acid reflux, not too much acid as you have been led to believe. Taking an antacid is the worst possible thing you could do as it further neutralizes stomach acid and destroys your ability to not only digest your food but to assimilate all the vitamins, minerals, proteins, carbohydrates, etc. that you need to live. At this point you will have undigested protein entering your bloodstream and aggregating your red blood cells. You will have excess uric acid (a byproduct of protein digestion) entering the bloodstream where it crystalizes. Your body can't do anything with these sharp, jagged, uric acid crystals and simply deposits them as far away as possible in the extremities and you end up with gout, which is very painful! So, suffice it to say that practicing proper eating habits can be very beneficial to your bloodstream and overall health in particular. Talk about painful, lack of hydration causes kidney stones, a lot of minerals and not enough water and the minerals crystalize into stones to be passed by the kidneys, ouch!

Speaking of water we actually had a Mayor here in the City of Seattle near where I live that was advocating for people to drink the City water instead of wasting their money on purified water. This once again points out the ignorance of most politicians when they start talking about subjects they know nothing about. He said that Seattle has some of the best drinking water in the country. By comparison he would be correct since you are comparing different degrees of harmful water with each other. Any water that contains chlorine and fluoride, which attack your thyroid and many other parts of your body, is unfit for human consumption. I will discuss this another time. Any water that contains aluminum as a byproduct of purification is unfit for human consumption because of its trivalent cationic properties that simply wreak havoc on the Zeta Potential of your bloodstream. You should also put a filter on your shower since your skin will absorb all these bad chemicals right into the bloodstream and you will be breathing them into your lungs in the form of water vapor as well, a very unhealthy situation.

To continue with digestion, as we age we lose from eight to ten percent of our ability to produce digestive enzymes in our pancreas for every ten years we live. So you can understand why someone fifty to sixty years old has so many digestive problems. This does not even take into account the fact that the food we eat is enzyme dead since most of it has been irradiated. The enzymes in the food we eat are supposed to work in concert with the enzymes our pancreas produces for complete digestion. Since most food is irradiated to kill bacteria (irradiation also kills enzymes) it also causes the food you eat to become enzyme dead, couple that with being down forty to sixty percent on production of pancreatic enzymes, you only have about a forty percent chance if that of digesting your food properly. Even at younger ages now, because of the enzyme dead food digestion is becoming increasingly difficult unless you eat certified organic food. Certified organic foods are enzyme rich and have not been irradiated. As mentioned, undigested protein is bad, it gets into the bloodstream and causes your red blood cells to aggregate. This can be alleviated by taking a high quality brand of plant based digestive enzymes as a supplement when you eat. Digestive enzymes are also anionic by nature and help to improve the Zeta Potential of the blood.

So, to review, cationic substances in the blood cause the blood to aggregate or clump together. Anionic substances in the blood repel each other and keep the blood dispersed. In addition to anions and

cations there is a third group called Zwitterions. Seriously, I am not making this up. I know between Zeta Potential and Zwitterions you are finding all of this a little hard to swallow but stay with me, in the end it will all make perfect sense. Zwitterions are Amphoteric Surfactants that can supply either the cation or the anion depending on the blood PH. In an ideal alkaline state it will supply the anion, conversely the cation will be supplied if an acid state exists. Ideally your body should always be slightly alkaline. The source of Amphoteric Surfactants in the human body are amino acids. It should be clear that keeping the blood dispersed properly increases the oxygen content and helps to keep the PH in an alkaline state, both necessary for optimum health.

Ok, that pretty much covers how you can ruin the Zeta Potential of your blood by what you eat and drink. Now let's discuss what external factors can have a negative effect on your bloodstream's Zeta Potential.

The very air we breathe and are physically bathed in every day has become very toxic for most of us. I am referring to the ion balance in the air. Without getting too scientific the air should contain a balance of positive-ions and negative-ions with a ratio of 5 pos-ions/4 neg-ions. An overload of pos-ions can literally cause pos-ion poisoning. This is a very complex situation that would take an entire book to explain in detail but I am going to try and condense it for you. Neg-ions are very good for you, the problem is they don't last very long in today's world especially because they will bind with dust, smoke, pollutants of all kinds, car exhaust especially, lose their charge and fall to the ground. In high humidity they bond with the water molecules and dust in the air, lose their charge and fall to the ground. In areas with lots of wind they bond to the airborne dust particles the wind carries as well as pollens, lose their charge and fall to the ground. When all of this happens the ratio is thrown completely out of whack and the air is saturated with pos-ions which have an astounding negative effect on people. It has been documented for years in Europe and the Middle East.

Deadly winds or what are also known as the Witch's wind have been given names around the world, the Föhn in Switzerland and Germany, the Sharav in the Middle East, the Mistral in France, the Scirocco in Italy, the Santa Ana in California and the Chinook by Tribal Western Indians. These winds all have one thing in common, they are pos-ion rich and neg-ion deplete. Pos-ions have been proven to cause malaise, stomach problems, increase in the detrimental effects of asthma and allergies. They have also been statistically proven to cause a rise in automobile accidents, violent crime increases as well as suicides, people argue more all because the overabundance of pos-ions causes production of too much serotonin in the brain, not good. When the Moon is full it is at its closest to the Earth and since it is negatively charged like the Earth it forces the pos-ions in the ionosphere closer to the Earth's surface. Everyone has heard all the stories about what happens during a full Moon, crime goes up, accidents go up it is a proven fact. The word Luna means Moon, the word Lunatic means crazy and is derived from all the stories of strange happenings during a full moon. Now there is scientific proof that too many pos-ions trigger these abnormal behaviors.

It has been proven that the movement of cilia in the trachea or windpipe in a neg-ion atmosphere is enhanced and depressed in a pos-ion atmosphere. The cilia move in a whip like action of about 900 times per minute clearing dust and pollen and other foreign matter away so it does not enter the lungs. In a pos-ion rich environment they slow way down, cigarette smoke which absorbs and destroys neg-ions enhances the slowdown, not hard to understand now why the cilia have a hard time protecting the lungs when the smoke neutralizes the neg-ions and brings in the pos-ions with it.

Houses, office buildings, automobiles, all contain positive-ion saturated air. TV's, computers, electrical appliances, furnaces, air conditioners all pos-ion generators as well, it is almost impossible to get away from it in the modern world. So how does this affect your blood you ask? Pos-ions have an effect on the blood where it hampers the ability to absorb oxygen; neg-ions improve oxygen absorption. Pos-ions and

their positive charge cause you blood to thicken and clot lowering the Zeta Potential. As recent as the 1970's there were hospitals in southern Germany that would postpone surgeries if the Foehn wind was blowing because of the effect it had on blood with its high pos-ion influence. We don't have to wait for these detrimental winds to blow to feel the side effects any more, we have created these deadly winds in our homes, offices and cars with their heaters, furnaces and air conditioners and they are year round.

The bottom line is this, it has been estimated that roughly seventy five percent of us are detectably sensitive to the effects of an overabundance of pos-ions. Twenty five percent of us are extremely sensitive. This is very important information to know. It clearly illustrates how sensitive human physiology can be and may clearly explain the erratic and sometimes irrational behavior of some of the people you know.

Now that we know how the Zeta Potential of our blood can be adversely affected, let's address how best to counteract all this mayhem we have created in both our external and internal environment. We need to eat oxygen rich organic fruits and vegetables and drink pure reverse osmosis water. With the proper approach all of our organs and tissues can receive the oxygen, nutrients, minerals, vitamins, hormones, etc. that our blood can deliver to them. Yes, Tom can be back in business running around without interference again, doing his job with stellar proficiency. I can guarantee you this, when your red blood cells are not allowed to function in a free and uncongested manner, many, many things are going to start malfunctioning in your body, the possibilities are almost endless and none of them good!

So why did I name my very important red blood cell Tom? I named him after Thomas M. Riddick, Engineer and Chemist who first started his research with regard to Zeta Potential and blood in the 1950's. He worked with Public Waterworks and Waste Treatment plants where the science and application of Zeta Potential was an everyday occurrence. An odd place indeed for this research to start but he had his reasons.

Thomas Riddick had a problem with his heart skipping a beat now and then and at the time it was commonly accepted that an occasional missing heartbeat was within normal limits and not important. As this problem increased in severity Mr. Riddick found that answer to be unacceptable and so his quest began. Unable to convince two of the oldest and largest pharmaceutical houses to direct their research departments in the direction of applying the principles of Zeta-Potential to cardiovascular disease, he decided to take on the task himself, unaided financially or otherwise. The more he worked with industrial systems and blood from a local hospital he began to believe that blood stability seemed to follow all the rules of colloid stability (Zeta Potential). Along with that he was developing a belief that the great majority of serious cardiovascular disease is a result of coagulation of the blood. His father was a country Doctor so he grew up witnessing hands on all different aspects of the medical profession. To take on this blood related research was only natural for him.

To try and make a long story shorter, Mr. Riddick began with the scientific assumption that since cationic elements aggregate your blood (lowering Zeta Potential) and anionic elements have the influence of keeping the blood dispersed (increasing Zeta Potential) why not use anionic elements to facilitate high Zeta Potential. Using five different anionic electrolytes in various combinations mixed with distilled water he finally came up with a few combinations he liked best. Drinking this electrolyte mixture at least a half an hour before a meal would allow it to get into the bloodstream thereby increasing Zeta Potential. The other reason you would drink this a half an hour before eating was because no matter what the combination of electrolytes was that he used they all had either sodium or potassium bicarbonate as a base which raised the PH of the solution to an alkaline reading of 8.0 - 8.4. Because of the alkaline PH of the solution being consumed you need time for it to pass through the stomach so that the stomach can have time to revert to its normal acidic PH of 2 in order to prepare for proper digestion.

Mr. Riddick tried various combinations of these anionic electrolytes on himself and his coworkers and finally settled on a formula that worked the best in keeping the blood dispersed achieving high Zeta Potential. Quite by accident a most amazing situation presented itself to Mr. Riddick during the process.

Like throwing a Canary into a mine shaft to see if it dies from toxic gasses before entering, Thomas found his metaphoric Canary in the mine quite accidentally in the form of his pet Panama parrot "Koko".

Koko was six years old. At about the time Thomas had established his regimen of synthetic water (water with added electrolytes) Koko's feet grew cold, parrot's feet are usually warm. Then he quit flying and within five days had lost the feathers on his chest. His down appeared to be dry and lifeless when observed under the microscope. When the veterinarian examined Koko he thought he suffered from vitamin deficiency and prescribed vitamin B complex. Instead, Thomas, after examining Koko's water dish thought it might be causing the problem. The dish was made of cast aluminum and quite corroded. He assumed that since it was so corroded that it was giving off aluminum ions at a more rapid rate than other kitchenware. By this assumption he concluded that Koko like many humans had become the victim of intravascular coagulation, well on his way to having a heart attack.

He changed the water dish to a Pyrex one and had Koko drink the same electrolyte enhanced water that he and his coworkers were drinking with no change to the formula. Within 48 hours his feet became warm again and after three days he began to fly. All his feathers regrew in five weeks' time. In Thomas Riddick's own words, "Koko had drunk from the same dish for more than three years. His delayed intravascular coagulation (of a truly serious nature) may be compared to the death of most persons from cardiovascular disease in their 40's, 50's and 60's, and the case is interesting and significant. For "treatment" I did not change his mode of life, except to eliminate his intake of aluminum by substituting a Pyrex dish and provide him with a water of known dispersing characteristics. It would appear that the blood and albumin of the parrot and human have much in common."

The unintended experiment with Koko further proved the benefits of increasing the Zeta Potential of one's blood. This was further proof of not only the necessity but the benefits achieved when a sustained regiment of drinking water of known dispersing characteristics is undertaken.

In his own words he writes, "It was necessary to spend ten years of intensive research to develop the role of Zeta Potential in the stability of industrial colloids. And only after this basic pattern was firmly established, could one hope to apply it successfully to biological systems. Moreover, the application of basic principles of Zeta Potential to the human organism was an ideal test of their verity because a most important criterion for evaluating any hypothesis involving a natural law is: Does it obtain (prevail) for biological systems?"

To our benefit his hypothesis was correct and we owe him a great deal of appreciation.

FOR THE WISE, THE BENEFIT IS YOURS

Four decades ago another exceptional man working on a parallel course and out of necessity picked up on this now proven theory and moved it forward. His name is Dr. T.C. McDaniel who at the time had cardiovascular issues of his own. At age 56 and in poor cardiovascular health he made a decision. In his own words:

"I WILL GO ANYWHERE

PAY ANY PRICE

DO ANYTHING NECESSARY

To find an answer to my problem. Truly, if it was to be, it was up to me."

Wise words that we could all live by. After much research and experimentation with the benefits that Zeta Potential had to offer, he not only used his acquired knowledge to help himself to rigorous health but used it in his practice for decades helping others to what he refers to as "Zestfull Wellness". In his book, DISEASE REPRIEVE Living into The Golden Years, Dr. McDaniel explains, "All of us have to fight our own Resistance to Change factor. The RC factor seems to be innate. Ironically, the more educated we are the most fixed is our belief and the greater our Resistance to Change. Medical Professionals are frequently at the bulwark of Resistance to Change."

It has been my firsthand experience with the established medical community that this statement holds an extreme amount of validity. Even outside the medical community I have found that the more educated a person is, the more they have a hard time accepting any of this. Typically I am told, if this were all true my Doctor would have already explained this to me. Anyone ever had a Doctor explain this to you? I didn't think so. Remember what Dr. McDaniel said about the resistance to change factor and how it relates to Doctors, that pretty much explains it, don't deny yourself better health because of your own resistance to change. It is my sincere hope that those closest to me would take this to heart and achieve better health. Some do, many don't because they feel fine now and think they are doing ok. You know, everything in moderation. It is always what you don't know is happening in your body that has a way of showing up one day in the form of disease and then you pay attention. Unfortunately sometimes the disease has silently progressed so far that it is too late and that becomes a very sad time indeed. Reduce your body's oxygen content and you are risking everything.

I had the honor and distinct pleasure of meeting with Dr. McDaniel just after he finally closed down his practice, he was in his mid nineties. At this writing he is 97 years old and going strong. When I met with him he asked me a very poignant question. "Would you like to live with "Ease" or would you like to live with "Dis-Ease." That question gave me pause. A very profound question that most of us never even consider. Most of us have never looked at the word "Disease" in that manner.

Dr. McDaniel spent decades helping his patients to live with ease. He is also fond of explaining Zeta Potential like this, "Dilution is the Solution." "The secret of the Disease Reprieve regimen is simple. And with a blood- stream expressing excellent Zeta Potential the following may result."

"NO MORE HEART ATTACKS

NO MORE INFARCTIONS

NO MORE ARYTHMIAS

NO MORE KIDNEY STONES

NO MORE LITHOTRIPSY
NO MORE DEEP VENOUS THROMBOSIS"

Dr. McDaniel developed his own proprietary blend of electrolytes which he sells to this day to allow people to enjoy the benefits of increased Zeta Potential. I have used them for two years now and I know they work. After studying the effects on my blood through the research I have done with my darkfield microscope, examining my blood as well as many others, it is very obvious what is happening once the anionic electrolytes reach the blood-stream and have time to integrate. Dilution and separation of red blood cells is consistent and apparent, resulting in increased Zeta Potential.

With all the talk previously about anionic (negative charge), cationic (positive charge), zwitterion (either positive or negative charge depending on the blood PH) elements and how they interact it is also important to understand that there are, according to Dr. McDaniel: "Non-ionic surfactants that adsorb onto the colloids, creating Steric Hindrance, which interferes with ionic mobility and thus Zeta Potential. Sugar and alcohol are non-ionic surfactants." In other words, Sugar and alcohol which have no ionic value (either positive or negative) are extremely detrimental to achieving high Zeta-Potential. These should obviously be avoided.

I think I have explained Zeta Potential and the benefits you can achieve as well as the misery you can avoid by increasing the Zeta Potential of your blood. We now understand how we get to a state of "Dis-Ease" and what we can do to get to a life and health profile of "Ease." Control what you eat and drink. Sugar, alcohol and smoking should be avoided. Avoid cationic substances including one of the worst offenders of them all, aluminum. Control your environment wherever possible. Negative ion generators at your office and home can really ease the problem of pos-ion poisoning. They are even available for your car.

Obviously oxygen delivery throughout our bodies is of extreme importance. Diseases and cancers in particular do not like oxygen rich alkaline environments. It would tend to follow that if we can increase the Zeta Potential of our blood to optimize oxygen delivery we in turn lessen the threat of Dis-ease. Thomas Riddick showed us how Zeta Potential is a basic law of nature and that without it life would cease to exist. Negatively charged particles entering the bloodstream enhance dispersion or discreteness by enhancing the electrical charge throughout the blood raising Zeta Potential. Red blood cells are then able to work freely with maximum surface area exposure to transport oxygen and dispose of carbon dioxide, an absolute must for a healthy body. As free radicals enter the bloodstream through what we eat, drink and breathe the heart tries to help as much as it can by creating negative surface charges on the individual red blood cells as they are pumped through the chambers of the heart and exit through the valves. As the blood flows through the heart in a vortexial manner, this is what is responsible for imparting a negative charge on the red blood cells as they leave the heart thus helping to sustain the necessary Zeta potential of the blood. As discussed, lowering or destroying Zeta Potential by what we eat, drink and breathe completely defeats what the heart is trying to constantly achieve, high Zeta Potential!

Another reason for circulating as much oxygen as possible in today's world is this, and it is quite shocking. At the turn of the century prior to the invention of the internal combustion engine the oxygen content of the air we breathe was around 23 to 24 percent. As time progressed into the mid nineteen hundreds the level fell to around 18 to 19 percent in the major cities. By the year 2000 it had fallen to approximately 15 percent and as low as 10 percent readings have been found in the most polluted cities. This combined with the destruction of the rainforests and the demise of microscopic Plankton in the

Ocean has dramatically reduced the ability of planet Earth to produce life sustaining oxygen at the levels we need to sustain a vigorous constitution and optimal health. Oxygen is our fuel, upwards of eighty percent of our production of energy is created from oxygen. A robust body will contain three times the amount of oxygen than the air you breathe, much less with low Zeta Potential.

Simply put, proper oxygenation of every cell in your body leads to good health. The lack of oxygen opens the door to diseases and cancers of all kinds. You need only look at the dramatic increase in cancer and heart disease alone over the past fifty years and you will find this to be true. Furthermore, look at the unbelievable rise in autoimmune diseases, even more proof that our immune systems are severely compromised and lack of oxygen is one of the causes. Fibromialgia and other painful autoimmune diseases have one thing in common, lack of negative electron flow. Low electron flow equals pain and inflammation.

Eating fast foods, convenience foods, prepared foods, microwaved meals, foods loaded with chemicals and preservatives, foods with a high sugar content, any food containing white flour, drinking alcohol, soft drinks, caffeinated drinks, foods with dense fats and proteins all cause your body to use an excessive amount of oxygen to convert them to energy further lowering your body's oxygen reserves. The body has to divert oxygen from more important tasks such as brain and heart function, immune system regulation, providing oxygen to the mitochondria in every cell in our body for energy production, etc. Conversely, organic fruits and vegetables are loaded with oxygen and help in digestion and other important metabolic functions, they actually assist your body in dramatic fashion.

Now more than ever, with diminishing oxygen supplies, it has become critical to raise your internal oxygen levels as much as possible. Once you lower the amount of available oxygen to your body through poor eating and drinking habits and a lack of aerobic exercise, impaired health and fatal disease is sure to follow. Remember this, at one point many years ago the Earth experienced an oxygen content of approximately 35 percent to as high as 50 percent. Look where we are now and going down every decade.

The oxygen content of the air we breathe has gone down and is continuing to do so. The ability of our blood to transport the now diminished oxygen to every cell throughout our body is further compromised by all the poor choices we are making with regard to what we eat and drink, smoking, etc. This oxygen capability is also compromised by the positive ion rich environment we find ourselves in daily, be it in our offices, automobiles or homes. Now, more than ever, urgency of the situation should be omnipresent. The days of thinking that a lifestyle that allows for everything in moderation are over. As a matter of fact that ship sailed over a century ago when we started to slowly deplete our own oxygen supply. Every day each one of us have cells that mutate into cancer cells somewhere in our body and our immune system is assigned with the task of identifying and destroying them. No amount of oxygen depletion, moderate or otherwise is acceptable. No moderate amount of poor food and drink choices are acceptable as it lowers the availability of oxygen for your immune system to operate at its peak level. You can not afford to cheat yourself and allow disease to take hold. The older we get the more important it becomes, oxygen is a necessity for vibrant health, why cheat yourself with even moderately bad food and drink choices, It makes no sense. Our children are forced to make changes now or find themselves in medical crisis at a very young age. These are not times to be moderate, these are times to be vigilant with one's health. The cushion we once had with an abundance of oxygen and good, healthy, mineral and vitamin rich food is gone. The food chain is polluted beyond belief. Our water systems are equally toxic and the air we breathe is severely compromised. Is a moderate amount of cancer ok? Is a moderate decrease in brain function ok? Is a moderate amount of cardiovascular disease ok? Of course not, especially when the cumulative effect of these so called moderate issues over the years put us in one medical crisis after the other. I am constantly amazed how so many adults think drinking wine is good for you and many of these same adults drink several glasses of wine on a daily basis. Nothing could be further from the truth.

Whatever benefits you think you are getting from wine are far outweighed by the lowering of the Zeta potential of your blood thereby causing consistent oxygen deprivation to your entire body which leads to all types of diseases and cancers. If you really want the benefits of wine then take a couple of Resveratrol capsules and drink an eight ounce glass of water. Drinking wine at night is the worst possible time, for it is at night, while you sleep that your body goes to work healing itself and the kidneys and liver work to balance out your entire system and remove toxins. It is also the time the immune system is supposed to be functioning at optimal levels. Instead the liver and kidneys are working on metabolizing the wine or any other alcohol you had that evening and run out of time before you have to wake up in the morning. They never finish detoxifying and balancing out the body to start the next day fresh, you are constantly living in a deficit. The immune system is operating at suboptimal levels due to decreased oxygen levels. Besides alcohol, which creates Streric Hindrance in the bloodstream, the liver and kidneys are busy while you sleep trying to process all the excess sugar, chemicals, preservatives, undesirable fats, salt, msg and many other toxins that you ingest on a daily basis. As a result, your body, especially the liver, become more toxic and acidic as time goes on and begin to malfunction, the kidney's begin to fail and it becomes a downward spiral. This is why it is so important to get a good night's sleep to allow your liver and kidneys time to work. A body trying to heal itself while you sleep that is oxygen deprived and in a state of low Zeta Potential doesn't have a real chance of doing so.

The problem with most all diseases is that you don't think you have them until it is too late. They usually do not express themselves until they are well advanced. That is why in today's world it is so very important to take a preventative approach towards your health, unfortunately in this case moderation kills.

A quick look at the rise and the demise of man is in order. Our ancient ancestors never had to deal with low oxygen levels, they never ingested everyday all the chemicals, preservatives, hormones and other toxins that we do on a daily basis. They were in fact in touch with Earth in a most important and unique manner. They would walk barefoot and sleep on the ground always in contact with the Earth. In other words they were always grounded. The Earth is negatively charged and is constantly emitting electrons from its surface. By standing barefoot on the ground you are absorbing these negatively charged electrons constantly and they are so very good and very vital to your health. Go to the beach, stick your feet in the sand, swim in the ocean and see how good you feel, all because of your exposure and absorption of electrons from the Earth. Lack of electron flow causes pain and inflammation, it is a proven scientific fact. The single worst invention by man that affected our health early on and to this date is shoes. Yes shoes, they completely insulate us from the Earth. Grounding yourself by placing yourself in direct contact with the Earth has an amazing effect, the negative charged electrons you are now absorbing increase Zeta Potential in the bloodstream and we now know how beneficial that can be. So walk barefoot as much as possible, swim or walk in the ocean, lakes, rivers and streams expose yourself to these healing electrons, after all, they are free. Ever notice how much better you feel when you go camping up in the mountains and you sleep in that crisp mountain air. You are once again exposing yourself to all those free electrons and the negative ion rich air. Our children know instinctively to go barefoot, we have forgotten how good it feels when we get older and get too busy. I have a friend whose mother is 91 years old and every year since I can remember as a child she has had a beautiful vegetable garden. Their family immigrated here from Latvia. To this day you can see her outside working in her garden barefoot, she loves it. She had no idea why it made her feel good, it was just instinctual.

Zeta Potential is a basic law of nature and we are breaking it every day with the way we choose to live. People are just too caught up in their busy lives to even take the time to take care of the only thing that truly matters, their body. They will spend hundreds of thousands of dollars on beautiful homes, tens of thousands of dollars on nice automobiles and countless thousands of dollars to maintain them and on a very regular basis. Yet what do they do to optimize their health and maintain their body on a regularly scheduled basis, the answer is next to nothing and in a lot of cases nothing at all. All the while they are degenerating and disease sets in and only when the disease has progressed to the point where they

notice it do they do anything about it. Off to the Doctor they go for a few pills to fix them up and once the crisis has passed they continue on the same path. The problem is they never address the cause and they continue to cycle through one sickness after another until they finally come down with a very serious disease. Their immune system shot and their body no longer able to heal itself because it is so toxic they are now at the mercy of the Doctor and Pharmaceutical companies, not a good place to be. Pretty soon it is a medicine cabinet full of prescriptions to keep you going and you are trapped by your own inability to have ever taken charge of your own health and live a preventative lifestyle. When I talk to people about living a preventive lifestyle they either ignore me because they are too young and still feel like they are invincible (superman syndrome), a very costly mistake or they are older, educated, and feel that their Doctor knows best and to leave it up to him, it is certainly much easier that way. The other complaint I hear is that certified organic fruit and vegetables are so expensive and supplements can be expensive, wild salmon and organic chicken and beef are so expensive yet they think nothing of spending countless thousands of dollars on their possessions and lifestyle. It is easy to fall into this trap and yes it takes a lot of sustained effort to live preventatively. The poor and unfortunate in our world will most likely never know this information and if they did would never be able to afford to eat a healthy diet, it is very sad. What makes it more sad is that the people who have the option of a healthy lifestyle and choose to ignore it.

Like I mentioned earlier I can only hope that those closest to me would listen, some do, most do not. I am sure if this information makes sense to you that you will want to share it with those closest to you as well. Don't be disappointed if they ignore you and don't push it on them, they are either ready to receive this information or they are not. The important thing in life is to take care of yourself, keep your friends close and live a long and happy life. After all, if you can have the self discipline to live a healthy, preventative lifestyle you might be lucky enough to live a long life of high quality. A long life or even a short life of poor quality is the only other option.

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To paraphrase what Dr. McDaniel said. Truly, if it is to be, it is up to me.

I would like to express my sincere appreciation to Dr. McDaniel for all he has done for me and for all the good he has done for so many people during the years he practiced and beyond. He has really brought a much needed science into the mainstream for acceptance. The resistance to change factor is still out there for most Doctors and it is a shame. His book, Disease Reprieve, should be a must read for any Doctor truly interested in helping his patients. If you want to find out about the seriousness of positive ion poisoning in our world today find a copy of the book, The Ion Effect, by Fred Soyka.

Do not let you own innate resistance to change become the cause of your demise.

I WISH YOU A LIFETIME OF EASE

Michael Hendrickson

I would like to thank Ron Schneider, a former Nobel Prize Nominee, Immunoenzymologist and friend for teaching me the many uses and advantages of using the Darkfield Microscope for live blood studies and analysis. He opened my eyes to a world of study that I had never given any thought to and to this day continues to amaze me. Without this microscope and the knowledge to use it, writing this article would have been based solely on dissemination of scientific fact from countless hours of literary research. I have personally observed the intrinsic value of Zeta Potential and its effect on the bloodstream with observations on my own blood and that of many others. Used properly, the Darkfield Microscope can be invaluable in assessing agglomerated blood and both low and high Zeta Potential.

Conclusion:

To increase your Zeta Potential supplement your meals with digestive enzymes, they aid in complete digestion so that undigested protein and excess uric acid do not end up in your bloodstream. Digestive enzymes also help because they are anionic by nature and aid in achieving high Zeta Potential.

Thirty minutes before each meal drink a specially formulated balance of electrolytes to achieve a high state of Zeta Potential in your bloodstream.

Eat nutritiously and give your body the life sustaining fuel it needs.

You can contact me for my recommendations on the best formulations for digestive enzymes and electrolytes.

