Quantum Biology 7: Sulfated Vitamin D3

Readers Summary

1. How does Vitamin D fit into our quantized existence?
2. How should you look at your own level of Vitamin D?
3. Why my blog's focuses are on the Laws of Nature and not evidence-based medicine.
4. How does science history make you more educated about health?
5. How can Einstein's Nobel prize help your health?

There is so much buzz now in modern healthcare and on the internet about Vitamin D but does anyone really know how it is integrated into our physiology? Most people understand that Vitamin D is tied to our bone's metabolism and our immune system's function but there is a lot more to this story. Vitamin D and its receptor, along with Vitamin A and its RXR receptor are among the oldest chemicals life have used to exist in evolutionary biology. Vitamin A is a proxy for the blue light system link to opsin biology in the brain and skin. This alone tells you how important Vitamin D is for function. Vitamin D is directly modulated by photoelectric effect of UVB light, which is a foundational law of nature and quantum mechanics. The skin and brain are both derived from neuroectoderm in all animals. In EMF 2, we saw how obesity might be related to an inflammatory condition found in the brain due to a lack of electrons/protons and photons. Today, we are going to examine how Vitamin D3 works in a quantized fashion. Sunlight is the only way to make sulfated Vitamin D3. The sulfated version of D3 is able to reflect the suboptimal solar radiations from our skin so blood plasma and deeper levels of our skin get the proper frequencies of solar EMF to build up our DC electric current within our body to

drive regeneration. Work on the DC electric current was done by Robert O. Becker and orthopedic surgeon who worked out how human bone regenerates.

Many physicians have confided in me that just do not believe that Vitamin D levels are that big of a deal for most patients. When they say that to me, I return a smile. It is not that big a deal for the doctor, but it is a huge clue about what is going on with the patient. The next time a dermatologist tells you the sun is bad for you you should tell them about this study: The further you are away from the equator, where the sun is strongest, skin cancer rates are HIGHER. Hyperlink to study. Or maybe to this one: HYPERLINK The reason for this relationship is because sun induced Vitamin D3 synthesis makes sulfated Vitamin D3.

For me, it is one of the most critical lab 'thermostat values' that tell me about the "preload of their semiconductors" in their skin and body. Yes, it is a quantum signal, to me as a physician about water. If you remember from the video's made at Paleo Fx 2011 and our Optimal reset challenge, that I said we can do a quick "biohack" using three labs and tell a lot about the person's current conditions of existence and where they need to go. Those three labs were the HS-CRP, DHEA, and Vitamin D3 levels. So far we covered DHEA in detail in the CPC blog of 6/30/2012 and in the back half of EMF 7. We have covered the Highly Sensitive- CRP in multiple places. Inflammation is the major signal that all biologic processes and respond to. All inflammation is positively charged. The DC electric current delivers a strong chronic negative charge to tissues to offset the positive charge of inflammation. The metabolic correlate of this action is the calcium channel blocking the ability of Vitamin D3 when it is sulfated. It also causes phosphate resorption in the kidney for the blood plasma. It is what the hormone panel responds to and it dictates the thermostat for mitochondrial efficiency, signaling, and control of the cell cycle via ubiquitin. The

inflammatory signal also sets the tone for “tight” circadian control via an adenosine signal in the cell.

Time to talk Einstein

Einstein started this party off in 1905 when his original paper was written about the duality of light. Many other brilliant scientists were stunned by his insight, and from this stunned position, these people helped us realize if you look very closely at life, how incredibly odd it can be at times. This is why quantum physics scares off most biologists and chemists. Elements in space and on Earth have the exact same fingerprints. It is where the macrocosm meets the microcosm. This concept in biology has been largely ignored for 120 years because up until the last 15 years, most biologists believed that QED was only the domain of subatomic particles. In this current series, I am slowly showing you that this belief is really behind why medicine is lagging far behind and why patients are really not making the strides they want or their doctors want. This paradox is at the crux of why doctors still question the importance of Vitamin D in some diseases. They know today, there is a Vitamin D pandemic, but they do not know why and they also do not understand what it means and how to use it to their advantage.

Dermatologists tell patients to avoid the sun in today’s world as a part of evidence based medicine. Sadly, most humans heed that warning because they do not understand the photoelectric effect on biology. On its surface, many modern humans think that make sense because they associate sunlight with skin cancer. However, here is the rub for these beliefs: Life could not exist or evolve without light. Every scientist knows this, and you should too, so why does current evidence differ? We have been examining the reason for this for the last 18 months on the blog. The reasons are vast. When you understand some of them, then you should immediately question, why is the sun bad for us then today? Your

instinct would be correct to question this.

Moreover, these paradoxes in evolutionary biology should get dermatologists and scientists asking a different questions about the sun then they are today. Why is it that in our modern world sunlight seems to be detrimental to our health? Is it really they sunlight or is it some other factor in us of the environment that we are overlooking? Natural elements in the environment are really fingerprints in this mystery. Light is part of the electo-magnetic spectrum of energies and is natures element. Energy from the sun comes in indivisible chunks, light is both a particle and a wave, and some things can be in two places at once. These are facts that Einstein's photoelectric effect gave us in his original paper from 1905. In 1921, he was awarded the Nobel prize for discovering the photoelectric effect. These facts are not being accounted for by modern medicine and this is why Vitamin D confuses us today. Let us explore this.

History Lesson

At the beginning of the 20th century, physics was a mess. The speed of light was a real problem, but the biggest problem was the theory of matter. This is where the concept of the atom comes in. Chemists showed great experimental evidence to suggest the presence of atoms. At most temperatures found on earth, Newton's laws could be applied to large numbers of atoms and molecules to predict the behavior of matter. The real problem came in the mid to late 19th century when many experiments done by physicists showed that when Newton's laws and his theory of matter were combined the results were not confirmed. For example, his work would predict that if you sat on your metal bench outside when it was really cold temperature (think absolute zero), its specific heat capacity would be so low that it would warm up instantly when someone just sat upon it. This is not what is observed and seems absurd when you think about it. This is why Newton's law had

some issues.

The physicist in the 19th century who was his biggest critic was Ernst Mach. Mach was correct to question Newton, but his own ideas about the solution were even worse than Newton's ideas. But the fact that he questioned their dogma, opened the door to people like Einstein, who had brilliant ideas. Mach's clever arguments, experiments, and fancy philosophy were no match for the physics of Einstein. The theories of General Relativity and Special relativity changed our Newtonian worldview quickly, but it was the photoelectric effect of light on matter that laid out the epistemologic foundation for the atom. Moreover, it described in detail how atoms really work in nature with light frequencies. Some of Einstein's ideas went far beyond just how atoms work. They described qualities of how matter interacts with the electromagnetic radiation, that no one had even thought about before. Some of his insights **were so odd** that the scientists of his day could not even wrap their head around them and actually made fun of him for close to a decade. This actually kept his ideas from being accepted. He came up with these theories in 1905 but had to wait 16 years to get his Nobel Prize. More irony, he won only one award. He never won the Nobel for the Theory of Relativity or for his mass equivalence equation, $E=mC^2$, or for his most cited paper on the Brownian motion. Science is loaded with dogma because they demand rigorous experimental study like we do today in an RCT. *Einstein was describing fundamental laws of nature.* **They are not subject to correlation or causation because they are universal.** It seems some modern scientists and medicine have forgotten this lesson.

Today, this same situation is going on in medicine today, in my opinion. We do not understand how the basic qualities of matter interact in a cell, and are actually used by biology. For example, In July of 2012, we just found the **Higgs Boson** which is the fundamental subatomic particle in physics **that**

determines mass. If we can not fundamentally know how mass is defined how can we say we know a lot about things derived from mass, like density, weight, or energy equivalence in the form of a calorie? It is really a fundamental question modern obesity researchers are clueless about. In my opinion, what Einstein solved in the early 20th century for physics, quantum biology, will eventually do for medicine in the 21st century because of what we are learning in CERN now.

Einstein admitted in his writings that some of his theories he could not even fathom as a realist. The 'uncertainty principle' is one of the better examples. He did, however, believe there had to be a single theory that could prove the existence of atoms and accurately predict how groups of them would behave together. With his imagination as his canvas, he created the foundation of quantum mechanics. His first paper in 1905 was called, "**On a Heuristic Viewpoint Concerning the Production and Transformation of Light**". The title told us that even Einstein was not sure his reasoning was correct. He was not afraid to take a chance to fail because he trusted his instinct. Thank God he overcame his own insecurity as a clerk in Austria, to take mankind to a new understanding. This one paper was revolutionary because he proposed for the first time that light can be two different contradictory things that exist simultaneously in nature. He was right, and even today, **nothing he has predicted has been found to incorrect.** Einstein was forced to wait from 1905 until 1922 to get his Nobel Prize. The reason why he waited? *No one could fathom he was correct.* One scientist tried for ten years to prove the photoelectric effect was incorrect. His name was Robert Millikan. He won a Noble Prize for his work in 1923, ***two years after Einstein's Nobel, proving that in physics you can win even a prize even when you are dead wrong.*** There is a lesson here for modern medicine and science.

Ultimate Truth Bomb: When you uncover the foundational principles of nature, you are not subject to correlation or

causation. Today, modern medicine is basing everything it believes on the standard built into the randomized controlled clinical trial. Biology is based on the interaction of solar radiations on matter. My blog is suggesting that maybe we are looking at the world of biology incorrectly, and we need to look at our modern medical problems the way Einstein did. They believe an RCT is the foundation of the biological sciences to get our best answers. I no longer do. I think when we use quantum physics to heal people we are superseding any insights we get from an RCT. Biophysical levers control the substrates in biochemistry and the reverse is not true. In fact, we need to feel secure that if we follow the laws of nature to obtain our goals, the results will not be subject to correlation without causation. This is precisely what Einstein did for physics in 1905 without realizing it. Millikan actually proved that as well, over a decade, while trying to take Sir Albert down. It seems that modern scientists and physicians do not realize that. Why should we settle for an RCT when evolution uses the laws of nature and matter as her template? This is why I reject placing any faith in any RCT done today and choose to see things through nature's eyes first before I examine what any RCT says. This is why the study in the Atlantic I have mentioned many times on this blog got me thinking about Einstein, and what he did for physics and mankind.

The Biology of light

So how do I propose solving this mystery? Using real world experiments and the laws of nature that Einstein uncovered and showing you how Vitamin D3 use them as well. I have told you the leptin receptor is the accountant in the brain that measures photons and electrons. The skin and brain both come from the same material in an embryo. This tissue is called neuroectoderm. This shows you another quantum principle at play. At one time in all life, the skin and brain were connected. Here is another twist I bet you did not know. In

the embryo, neuroectoderm receives a signal from bone morphogenetic protein. This is an inhibiting signal from a protein ***called noggin.*** Noggin leads to the development of the nervous system from this tissue. ***Here we see bone tissue can direct brain formation.*** We already established in EMF 8 that bone is quantum. Now we see bone helps form the brain too. How do these two tissues communicate during gastrulation? This implies the brain is also quantum and communicate via proton interactions in water. I think I established that in Brain gut 5 too. Everything is connected in a quantum system by water. This is the key principle behind coherence in the living matrix of all biology. The key is realizing the system is quantized, to begin with. Are their more connections you should be aware of with the skin? Yes. *The integumentary system covers the surface of the embryo and its specialized skin structures including hair, nails, sweat glands, mammary glands, and teeth.* As a system, it has contributions from all embryonic layers. This means that every system at some level is tied to sulfated Vitamin D3 in some way, and it is why the sulfation of Vitamin D3 by the sun is important to understand.

In our adult form, the skin and our brain are no longer are '**physically**' connected. What binds their function together physiologically? Water-linked cholesterol conversion to vitamin D3 conversion via its isomerization step. Sulfated Vitamin D3 levels are the short answer. How? It does so by action at a spooky distance. It uses entanglement of free radicals to pull off this task. It is called the principle of nonlocality of subatomic particles that are generated by light and oxygen when a stream of electrons and protons are present. Where did physics get this idea? They got it from the laws of nature based on the photoelectric effect that Einstein described. This is how nature works using light at its fundamental levels. It is where the macrocosm of space, meets the nanoscopic precision of the microcosm of a cell. Today, 'modern organic chemists' will tell you they do not believe in

action at a spooky distance applies to organic chemistry. Go back and read this post carefully again and look at what I asked that day. It does. Their beliefs are another reason why medicine might still be in the dark over these issues.

Ulitmate Truth Bomb: Just so I am being painstakingly clear here: Any physical theory that supersedes or replaces quantum theory must make similar experimental predictions and must therefore also be non-local in this sense; **quantum nonlocality is a property of the universe that is independent of our description of nature. It has been tested thousands of times and has been found profoundly accurate.**

What **should you know about the implications of this finding?**

Solar light is a foundational element of nature, then it means biology had to build a biochemical system around each of the elements found in nature to its advantage in order to control the randomness of quantum effects to make life possible. **It turns out light uses nitrogen to control how mitochondria can use carbon in our foods.** In plants, this is done via photosynthesis and in animals, it is done via ubiquitin's action on proteins. Sulfated Vitamin D3 is part of that system that evolutionary biology constructed to do this. The first biologic use of light is found in photosynthesis. Soon you will learn a lot more about photosynthesis. As I showed in the EMF series plant life used photosynthesis 3-3.5 billion years ago. In EMF 7, I told you nothing found to date in any branch of science is more energy efficient on the planet compared to photosynthesis. This story is laid out beautifully in the new book Life at the Edge by Jim Al Khalili.

Photosynthesis uses the quantum science of 'water-energy/information' to its huge advantage. When light and water interact in a plants pigments or in our carbon nanotubes in our skin some amazing things happen. It is so complex and amazing but it explains how we transfer energy from the light in our atmosphere that is carried on water vapors in clouds.

The phase change of gaseous water to rain is called a phase transition of water. When we move from a gas to liquid rain huge amounts of energy have to be added to the water vapor to change it to liquid rain. When that liquid is heavy enough in a cloud it falls to Earth via gravity. When this phase transition occurs liquid water becomes rain, which then releases its energy to grass and plants. This transfer of energy fuels photosynthesis which turns atmospheric CO_2 into O_2 for animals to use at 100{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6} efficiency. What controls photosynthesis? Sunlight's action on nitrogen in a plants' RuBisCo enzyme. It turns out water becomes a battery when sunlight hits it. Water is a repository for light. In turn, sunlight uses nitrogen to make a CO_2 turn into sugars for plants. The waste product of photosynthesis became all animals Rx for complexity; it was oxygen. Oxygen production in the seas allowed for the formation of DHA. This is why oxygen exploded suddenly on the scene of life 542 million years ago and life exploded. This was known as the Cambrian explosion. Once the Pasteur effect was breached energy and information transfers increased dramatically.

When life harnessed the power of the sun via DHA, the skin production of sulfated Vitamin D3 became very important in building more complex animals. This is why life exploded. Over the following 70 or 80 million years, the rate of evolution accelerated by an order of magnitude (as defined in terms of the extinction and origination rate of species) and the diversity of life began to resemble that of today. All present phyla appeared within the first 20 million years of this period. You would have thought a bunch of smart bone collectors would have put two and two together by now. They have not. Plants took full advantage of this. They exploded on the scene of life back then.

The photoelectric effect has been extensively studied in

plants. It has been found to be massively energy efficient. The rate of energy capture by the photoelectric effect in plants is immense. It is approximately 100 trillion watts (1 trillion watts = 1 terawatt). This is ten times the current the current power consumption of the human species today. It is clear the photoelectric effect was very powerful for plant life that they could evolve just using water and light to make nutrients. Animals are not connected to the ground 100{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6} of the time, nor do they have their semiconductors (canopy of leaves) in the sunlight 24/7. So animal life had to come up with a new way to use the photoelectric effect to power life. It did. It used DHA and water to build a powerful battery that was constantly recharged by solar power. Sulfated Vitamin D3 in our skin is a semiconductor LED designed to transfer the sun's power to our hypothalamus by way of our blood plasma. The sun can increase the electric charge present in our plasma and our skin simultaneously.

It turns our photosynthesis also gave animal life a boost too, via its use of Vitamin D3. Vitamin D receptors (VDR) and the RXR vitamin A receptors are all linked with DHA because all are semiconductors whose power can be elevated by the stream of electrons or photons. We know this because of Einstein's photoelectric effect.

So it appears animal life used some of the foundational 'quantum pieces' built into photosynthesis of plants by improving upon its design using DHA. The details on photosynthesis show that photo-chemicals acts as semiconductors in plants. So does collagen and water in animals. **This is why a human can live 30 days without food but only 7 days without water.** Equatorial animals can do this as well. This is why plants need water to grow. Water is one of the critical elements of life. What are the others according to scientists today in NASA? Light and magnetism. This is why Mars is a dead red planet and Earth is not. Mars

lacks a magnetic field and had its atmosphere stripped by the solar winds because of this lack of magnetic protection. This is the current belief. Animals began to construct energy systems via fractal design over eons and connected multiple different biologic systems to make sense of the quirkiness of light and matter to make life work more optimally. This is why the VDR is found in every human tissue ever sampled. We know that Vitamin D and its receptor was designed to make perfect use the natural physical and electromagnetic elements of light found on Earth around 600-700 million years ago. How it does it, is now modern medicine's mystery. I like to solve mysteries. So how do I think about it? Let us examine the simple physics problem and use it as an analogy to explain quantum biology.

Shining light on the mystery

Einstein says if you shine a light, specifically ultraviolet light on a piece of metal, the light can knock electrons out of the metal. In a lab this data is easily collected and proven. Back in the early 20th century, the photoelectric effect made science uncomfortable just like the story of Vitamin D is today. The wave theory of light suggested as you turned up the brightness of the light, you should eject more electrons because brighter light has more energy in it. Why they had trouble with Einstein's ideas was because in their experiments this did not happen. If you shine light onto a piece of an element, no electrons were ejected, no matter how bright the light was made. But when you changed the light to the ultra violet, you could turn it down low and still electrons will be ejected. Einstein's genius was that he took the experimental data they created and made sense of it without getting caught in their dogma. He realized that if the light was made up of small particles called photons, the photoelectric effect was easy to explain. Max Plank had shown in years prior to Einstein's ideas, that it was the **frequency of light** and not the intensity of the light that determines

its energy.

The brain also pays attention to the frequency of light in our retina, pineal gland, and our entire visual system; it is a funny coincidence, huh?

Einstein's original paper in 1905 suggested that *low energy red photons do not* have enough energy to knock out any of the electrons out of the potassium and that was the reason the experiments appeared to fail. Red light moves things with mass well. **He also pointed out that a single ultraviolet photon had enough energy to knock the electron out.** Why is this foundational principle important for sulfated Vitamin D3 production?

Modern medicine is focused on sunlight being bad for us today. If you are following the Einstein analogy, **what if it is not the sun that is bad?** What if it is the lack of semiconductors in the skin that can no longer interact with the sun is the real problem? If that were true and you did not know about these missing skin semi-conductors or how their power is elevated by sunlight and protects us from bad frequencies of sunlight, it would appear that the sun was really bad for us. And that is precisely where modern medicine is today in my humble opinion. Do I have support for this belief? Yes, this is precisely how Neils Bohr figured out the mystery of the atom. He brainstormed to use Einstein and Plank's ideas and mix then with Balmer's equation that described *the emission spectrum of hydrogen* that was found in 1885. His idea was that electrons can only sit at certain fixed quantum distances from the nucleus. When they become more energized they can move further from the nucleus and if they really become energized they can be expelled in the form of electromagnetic radiation. He essentially realized that the substance of matter really matters on a particle basis. Since this is a foundational principle in nature it stands to reason that biology uses the same principle in some way we do not yet realize? I think so. Everything in biology is made up of

atoms is it not?

It means that if the semiconductors are altered in terms of their ability to hold or transduce energy it will have a direct impact on the effect of light on them. This may sound counter-intuitive to you at first, but it completely explains why we see a pandemic in Vitamin D now.

All eukaryotic life uses sulfated Vitamin D3 at some level in combination with collagen, Vitamin A, K, E, and the RXR receptors and VDR. The vitamin D receptor plays an important role in regulating the hair cycle. When DHA became encephalized in man is likely caused hair loss to support brain growth. *Loss of VDR has now been associated with hair loss in experimental animals*; moreover, it may help explain why humans lost their body hair as they evolved close to the equator at elevation in the East African rift zone. As elevation changes sodos water chemistry. They likely needed the extra power of the sun to help power the epigenetic changes to transform us from our ancestors, because of the heavy energy costs our brain puts on the mammalian body plan.

In humans, it is well established that we use it to help form strong bones and to increase our immune systems. When Vitamin D3 levels are low, it means only two things. It means the frequencies of sunlight might have changed from the sun, or the detection system for the spectrum of light is somehow altered in us. Since the frequency of the sun has been a constant on this planet for 4.5 billion years we are left with the solution. **When you have eliminated the impossible, whatever is left becomes your new reality**. *It looks like wearing clothes and not sulfating cholesterol, DHEA, and Vitamin D3 might be the real reason the sun can hurt humans.*

When I realized that bone was quantized, as Dr. Becker proved beyond a shadow of a doubt in the 1960's, and I really looked at what Einstein, Plank, and Bohr's work implied for biology, I felt I knew why we had a Vitamin D3 pandemic today. It

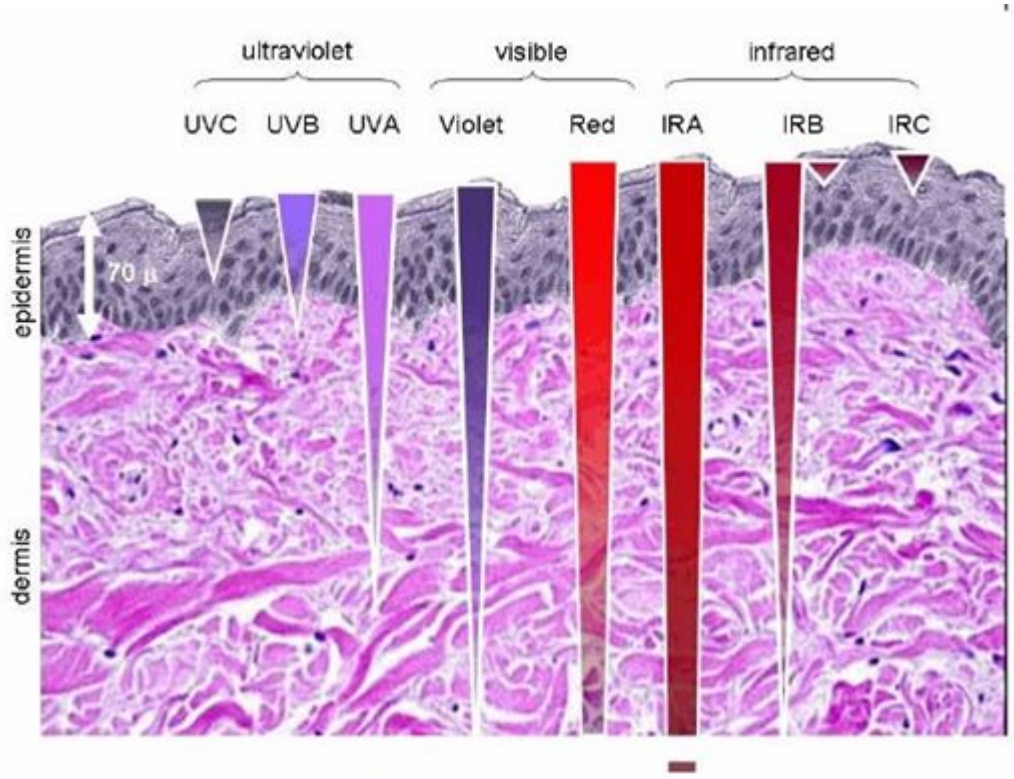
also explained why Vitamin D3 and bone metabolism is tied at the evolutionary hip. **Becker's experiments also showed that collagen matrix of bone acted as the N-type of semi-conductor of bone while apatite crystals were the P-type semiconductor**. We know that vitamin D3 plays a massive role in controlling bone metabolism.

How do humans make Vitamin D from the sun?

Non Geeks: 7-Dehydrocholesterol is the semiconductor in the skin that takes the EMF signal of light and changes it to a chemical signal that the brain samples to control circadian timing. It uses *water* as well.

Geeks: We humans use a specific frequency of the visible light spectrum to do it. It is called the high energy UV-B band of light to do it. This is precisely what Einstein pointed out in the analogy I used above. Coincidence?

The back bone of Vitamin D is cholesterol made by every cell in the bofy that is converts to 7-Dehydrocholesterol in the skin. The skin consists of two primary layers: the inner layer called the dermis, composed largely of connective tissue, and the outer thinner epidermis. The thickness of the epidermis ranges from 0.08mm to more than 0.6mm (0.003 to 0.024 inches). The epidermis consists of five *strata*; from outer to inner they are: the stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum, and stratum basale. The highest concentrations of 7-dehydrocholesterol are found in the epidermal layer of skin, specifically in the stratum basale and stratum spinosum. The production of pre-vitamin D_3 is therefore greatest in these two layers, whereas production in the other layers is reduced.



Synthesis of pre-vitamin D_3 in the skin involves UVB radiation which effectively penetrates only the epidermal layers of skin. 7-Dehydrocholesterol absorbs UV light most effectively at wavelengths between **290-320nm** and thus the production of vitamin D_3 will only occur at those wavelengths. The two most important factors that govern the generation of pre-vitamin D_3 are the quantity (intensity) and quality (appropriate wavelength) of the UVB irradiation reaching the 7-dehydrocholesterol deep in the stratum basale and stratum spinosum. This is precisely what Einstein said about the metal bench experiments. The parallel is congruent. Another important consideration is the quantity of 7-dehydrocholesterol present in the skin. Under normal circumstances, ample quantities of 7-dehydrocholesterol (about 25–50 mg/cm^2 of skin) are available in the stratum spinosum and stratum basale of human skin to meet the body's vitamin D requirements. Many drugs slow the formation of 7-Dehydrocholesterol. Statins are the best modern example.

7-Dehydrocholesterol is the precursor of vitamin D_3. Within the

epidermal layer of skin, 7-Dehydrocholesterol undergoes an electrocyclic reaction as a result of UVB radiation, resulting in the opening of the vitamin precursor B-ring through a conrotatory pathway. Therefore, Cholecalciferol is synthesized in the skin from 7-dehydrocholesterol under the action of ultraviolet B light. Following this, the previtamin D_3 undergoes a [1,7] antarafacial sigmatropic rearrangement and therein finally isomerizes to form vitamin D_3. It reaches an equilibrium in the skin after several minutes depending on several factors including conditions of sunlight (latitude, season, cloud cover, altitude), the age of skin, and color of skin.

Cholecalciferol is then hydroxylated in the liver to become calcifediol (25-hydroxyvitamin D_3).

Next, calcifediol is again hydroxylated, this time in the kidney, and becomes calcitriol (1,25-dihydroxyvitamin D_3). Calcitriol is the most active hormone form of vitamin D_3.

Non Geeks: So why is Vitamin D low in everyone these days? It is because the positive and negative semiconductors of the human body have become altered , globally for some reason. Moreover, the magnetic field our semiconductors find themselves in today have also been altered. The reasons for the alterations are not the same everywhere on the planet, but it is the ultimate answer. Moreover, some of us, like those in the western world have multiple reasons that our semiconductors are altered. I have mentioned several in the last ten blogs or so. EMF, trans fats, man made foodstuffs like soybean, canola, and vegetable oils, and fluoride in the water are just some I have shared with you so far. There are many more. I explained in the EMF series that these substances acts as dielectric blockers in biologic semiconductors. Dielectric blockers cause avalanche collapse of energy transduction.

What is avalanche collapse?

Geeks: At breakdown, the electric field frees bound electrons and photons. If the applied electric field is sufficiently high, free electrons from background radiation may become accelerated to velocities that can liberate additional electrons during collisions with neutral atoms or molecules in a process called avalanche breakdown of superconduction. Breakdown occurs quite abruptly, typically in nanoseconds, resulting in the formation of an electrically conductive path and a disruptive discharge through the material. For solid materials, like a liquid crystalline lattice of water in a nanotube, a breakdown event severely degrades proton and electron currents, or even destroys, its insulating capability.

Non Geeks: When we understand this, we are back to Einstein's math of the energy mass equivalence equation of $E=mC^2$. This also explains why no one really knows today what is the optimal Vitamin D level in humans today. There is no group world wide who has normal semiconductors, so we have **no control group** in which to study this properly. We have to rely on data collected on humans pre- 1920 to really have an idea of what might be optimal. I have and this is why I like the range of 70-120 ng/ml. Studies done of people of today will never be accurate to assess a good Vitamin D levels for optimal health and will only act to fool physicians and patients.

Collagen is the the number one protein in the body by shear weight. It makes up the protein sheaths and fascia that all carbon nanotubes are connected to. These tubes are all designed to be filled with water. Collagen is what the negative semiconductor in most tissues, like bone mentioned above. I believe there are some tissues it can be the positive semiconductor. When the dielectric blockers are added to collagen matrix for any reason, they can not make or

transduce energy from sunlight or any other quantum effect (electrons, photons, and phonons) and the end result that we assay when we look is we see an alteration of our Vitamin D, DHEA, and HS CRP levels. You might be seeing why Vitamin D levels are low in obesity and in metabolic syndrome now. These two disease are the base of the sickness pyramid modern man faces today. Quantum biology predicts that both diseases are underpinned by bad semiconductors that can not hold their charge for some reason. They are both diseases are disease were we have lost electrons, photons, or phonons to the environment from our semiconductors, as I laid out in the EMF series and the recent May Webinar of 2013.

This also explains why the boilerplate version of the paleo template helps improve your health to some degree. It also helps explain why so many on the template do not get totally better to reverse their diseases. You need higher power to generate a high DC current to regenerate. This requires more DHA. It is akin to the physics experiment I mentioned to you above. There is more to the story, because there has to be a way a reverse every disease since humans are not designed by nature to be filled with disease. That story is linked to water and its hydrogen content. We need to approach our reasoning of modern diseases differently if we are going to solve today's conditions of existence. The paleo blueprint improves the collagen semiconductor best because it increases the amount of protein to make collagen while cutting dielectric blockers in water; that collagen uses in quantum semiconduction biology. But often times it does not go far enough for those of us, whose diseases are tied to other semiconductors that are used in the brain, which are made from DHA and water and not collagen. Osteoporosis, obesity, autism, depression, AD, PCOS, and metabolic syndrome are some of these examples, but there are many others. I will be writing about them as time goes on.

This is where the Epi-Paleo Rx steps up the game to include

all the semiconductors we have uncovered to date. I fully expect more to be found when people begin to look for them, and the more we find, the more we will understand why ancient cultures did what they did. I believe they used the power of time and empiric testing to instinctively know how to best utilize the photoelectric effect to stay well. The ancestral human diet formed around the East African rift zone and the conditions of existence that existed at our origin. these environmental changes had huge impacts on water and light frequencies. This Epi-paleo Rx seems to help the collagen semi conductor in the body and brain, while maximizing the other semiconductors such as water, to improve its ability to transmit energy using the coherence of water. When these are maximized, we magically see Vitamin D levels rise without supplementation, DHEA levels rise, and HS CRP levels fall. This also helps explain to physicians why some of their patients who they supplement large doses of vitamin D 3, never seem to make a dent in their levels when they measure their serum after some time with aggressive supplementation. I have my patients consider adding 100 micrograms of Vitamin K_2 with every 1000 IU increase of Vitamin D3 we add while we simultaneously are improving their semiconductors using the Epi-paleo Rx. This may not be useful in the future. This can help repair the semiconductors quicker when the Epi-Paleo Rx is used simultaneously to improve the other factors important to quantum biology. When we do it this way we begin to see changes and permanence of the Vitamin D level 12-18 months in. The duration of change is directly proportional to the quality of the semi conductor's ability to transduce energy due to the current disease status. The sicker you are the longer it will take. This also is based in Einstein's math built into the photoelectric effect of light. It is based upon his fourth paper from 1905 on Brownian motion and stochastic calculus. To gain the benefit of sunlight's frequency of the wavelength, we need the ability to absorb it. If our semiconductors are run down for any reason, the power of the

sun can alter cellular signaling to cause disease. This does not mean we should avoid the sun, it means we need to improve our conditions of existence, to improve our bodies semiconductors' ability to transmit the frequency of the spectrum of light, to power our cells. Our body is designed to take the sun's natural electro-magnetic radiation, called visible light, and its intrinsic energy package, the photon, and turn it from an EMF message to a chemical message in our cells to signal and power life.

When the semiconductors of the body are degraded for any reason, vitamin D levels will always be low. The reason it is low is not because the sun's light energy has recently changed. **It is because our semiconductors have been degraded by our epigenetic choices or how we are forced to live our modern life.** Today's low level of Vitamin D tells you something deeply about the recommendations "experts" have made for us when you realize the sun's light has not changed. It means their recommendations of how we should live have changed for the proper operation of our semiconductors. It also means their beliefs have dramatically altered the choices **we have** allowed to occur for us and our families. These beliefs have created environmental mismatches which have acted to subjugate the rules of nature for a healthy life.

We are the experts of us, and we need to realize this. We need to allow the laws of nature dictate our health outcomes. This is where the science of quantum mechanics should marry to modern healthcare. We need to move away from the experts ideas and move back toward how Einstein says the elements of life should work at a foundational level. We need to allow nature's design dictate our choices and not a randomized controlled clinical trial. There is a deep lesson to learn buried in Einstein's genius for all life. It is time we all pay attention it to make the difference we are looking for in medicine.

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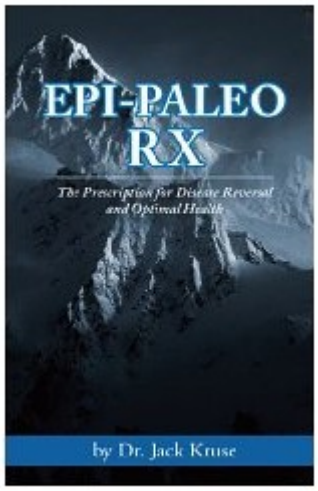

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Additional Resources

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- Quantum Biology 1: The Zero Entropy System

- Brain Gut 3: Look In The Past To See Your Prologue

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