

# Physica Radio Field Notes

## Dr. Stephen H. Atkins

Well good afternoon everyone, it is Wednesday's lunch time and that means it's time for Field Notes and I'm Dr. Stephen Atkins. As you all know I'm your host for these weekly recurring lunchtime segments. It is always a blessing and pleasure of mine to be here and I'm really so glad you guys are tuning in and taking advantage of these segments.

You know it's interesting, I just got off the phone with a doctor prior to the broadcast here and we were having a little conversation about blood sugar regulation. It was really amazing to me how very little they actually knew about it. So I thought it would be a great little topic for today's show.

So, as we all know, cells are the fundamental unit of life and our cells get their energy from something called ATP, which is adenosine triphosphate. There are certain metabolic reactions that occur within every cell. The cell will utilize particular nutrients in our food to produce the cells usable form of energy, which is ATP.

Now the fuel for the body, as we all know, are carbohydrates, fats and proteins. *Carbohydrates* are converted to simple sugars or starches, which then become glucose and these enter the bloodstream where they are either stored or used as fuel.

Then we have *fats* that are converted to either triglycerides or fatty acids. They go into the lymph system and then finally into the blood

system. They are either stored, used as fuel or the phospholipids become the building blocks for every cell of the body. As you recall, every cell and every cell membrane in the body has a phospholipid membrane. So you can see how balanced fat consumption really plays a key role in how our cells are produced and are protected.

Then finally, proteins are a fuel source, which are converted to *amino acids* and certain *polypeptides*. When they enter the blood stream they are either used as building blocks or stored as fuel.

You know it's really interesting that we are designed to use a balance of unrefined carbs, along with good fats and good proteins as our primary fuel sources. Analogously, if we are building a fire, carbohydrates are the kindling for the fire. They burn hot and real fast. Fats and proteins are like logs and they burn very slow and over a long period of time. Accordingly, we are not designed to run on Coca-Cola which still seems to come as a surprise to many! However, we are designed to run on clean complex carbohydrates, fats and proteins.

So basically when it comes to normal blood sugar function there are 3 basic primary organs that regulate our blood sugar. The liver, for one, the adrenal glands and the pancreas. All of which we've been considering in varying detail, week by week.

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Now, glucose is basically the fuel for the body. So carbohydrates are the fuel that most directly affects blood sugar as they are converted IMMEDIATELY to glucose or blood sugar. Our body's intelligence continually monitors the amount of glucose in our bloodstream to help maintain specific levels of balance. Too much or too little glucose will trigger the release of certain hormones that then return glucose levels back to normal. Here is yet another good example of negative feedback loop mechanisms that Dr. Cass continually emphasizes in his classes. Understanding these rate controlled mechanisms gives us great insight in causal chain patterning. Incidentally, you'll be hearing about this in depth from the speakers at this year's Concordia which is entitled, "Chronic Pathogenicities, Cloaked Disturbances and Causal Chains". If you haven't registered yet, I strongly suggest you do as there is an early bird tuition still available for a few more weeks.

I was just in Santa Barbara staying and studying with Dr. Cass recently. It is one of the most beautiful little cities I have ever been in... and I've been around! The Fess Parker Resort is exceptional. It's right on the waterside of the American Riviera and as Dr. Cass says, "it's an unbearable 72 degrees Fahrenheit year round". This year's Concordia is being held November 1<sup>st</sup> and 2<sup>nd</sup> this year. I understand they are ¾s booked already so a word to the wise – if you're thinking of coming you really must register now as there is a limit to the number who can attend these events. AND many of us are making a mini-vacation out of this... Hope to see you there.

So, the optimal blood sugar ranges in the United States here is about 80 - 100 milligrams per decilitre. When someone eats proteins, fats or

carbs in any form, blood sugar goes up. The beta cells in the pancreas release insulin to bring the blood sugar down.

If the blood sugar gets too low, let's say for instance between meals, the alpha cells in the pancreas release glucagon and that helps bring the blood sugar back up to normal.

So if you have too much glucose, the body makes insulin. As I was explaining, insulin is made by the beta cells in the pancreas which stimulates the liver to convert glucose to *glycogen* through *glycogenesis*. This in turn stores the sugar and this takes place in the bloodstream. If the liver and muscle fibre stores are full the liver then converts the remaining glucose to *triglycerides* and *cholesterol*, which is then stored. Muscle fibres also store the remaining glucose, once they have converted it to glycogen. Now this is an important point as we shall see shortly.

Remember, when your blood sugar becomes too low, *glucagon* is stimulated and glucagon stimulates the liver to convert glycogen back to glucose. This is a process that is called *glycogenolysis* and once converted releases back into the blood stream. Now the muscle cells will actually free up glucose for their own use, so they don't release it back into the body. Triglycerides and cholesterol can convert back to glucose to be released into the bloodstream. So this is kind of what happens in the body when there are too many swings in blood sugar....from too high or too low.

When this happens it causes a lot of stress in the body and this stressful situation places additional energy demands on the body too. All this up and down business requires more blood sugar.

And what do you think is the gland that immediately takes the hit? I hope you're all saying the adrenal gland! Well you're right – the adrenals!

When glucose levels plummet the adrenals fire up and stimulate *adrenalin*, *noradrenalin* and *glucocorticoids*. The adrenalin (or another name for that is *epinephrine*), stimulates the liver to convert glycogen back to glucose through glycogenolysis. This then releases it back into the blood stream. Adrenalin also stimulates the liver to produce glucose from proteins and fats through a process called *gluconeogenesis*, which then releases it back into the bloodstream.

Noradrenalin and norepinephrine moves the blood away from the deeper organs and pushes it to the muscles and heart. A perfect example of this is back in primitive times when the caveman was being chased by the Sabre Tooth Tiger, all the reserves of blood go away from the deep organs and they go out to the muscles and heart tissue – fight or flight!

Glucocorticoids (adrenal hormones right?) increase the breakdown of muscle protein to amino acids which can then be used for ATP production (we talked about this earlier). It stimulates the break down of triglycerides and the release of fatty acids from the *adipose tissue* by way of a process called *lipolysis* which helps stimulate gluconeogenesis. It also prepares the body for survival by temporarily suppressing the immune function actually and increasing inflammatory hormones. Again, this is a rate controlled, negative feedback loop mechanism.

You know it's really interesting, never before in the history of mankind can I think of a time,

have we had the need to lower blood sugar. This is a really recent phenomenon that correlates with the out of control, consumption of large amounts of refined carbohydrates and refined sugar.

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You know it is interesting how Americans and Canadians and Europeans and frankly, come to think of it, all over the world (!) people are inundating their bodies with sugar and refined carbs. I think there's actually a quote somewhere indicating that Americans eat well over about 170 pounds of refined sugar per year.

Apart from every other factor which we are considering, this is truly terrible for immune function. **Remember**, if you eat a teaspoon of sugar it shuts down your immune system or your white blood cells for six hours!

The consumption of sugar causes severe nutrient deficiencies that regulate blood sugar, especially B1. It also affects chromium, zinc, riboflavin, B6 and calcium. It's really the refining of the sugar that is the worst thing when it comes to blood sugar dysregulation. If you take an example like sugar cane, the chromium in sugar cane is naturally occurring and it's actually naturally there to help sugar cane as a co-factor for digestion. So when you strip these nutrients out of the natural sugar by refining it, the body then has no way to assimilate and digest it, because the co-factors are gone!

If you look at sugar on a food label, and if the sugar or sugary ingredient is listed as one of the first three ingredients, then you likely know that product is very high in sugar. Manufacturers will use other names of sugar as substitutes like brown sugar, powdered sugar or turbinado

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sugar, white sugar, cane sugar, beet sugar, corn sugar, date sugar, maple sugar, these are all just hidden names for sugar. Or they'll use something like high fructose corn syrup, or disaccharides, molasses, sucanat, polysaccharides, fructose, inverted sugar, dextrose, glucose, sorbitol, maltose, rice extract, mannitol, these are all just hidden names of sugar. This is just so wrong!

So a question I ask my patients when they come in, (this is something to think about when people talk about stress), 'are your lives stressful?' OR do we keep our bodies in a continual state of stress with the sugar that we eat which causes us to interpret everything around us as stressful? So the organs that take the initial hits are the pancreas, the adrenals and the liver. If these don't come back into balance a whole cascade of intense challenges begin to emerge.

The pancreas eventually wears out producing insufficient quantities of insulin. When the pancreas doesn't make insulin, then you need to take it from an outside source. Type 2 Diabetes is on a rapidly rising trajectory as Dr. Cass says.

The adrenals will go into a state of exhaustion and the liver has increasing difficulty converting glycogen and proteins and fats, into glucose. This is showing up rapidly in the form of various types of Diabetes; the narrowing of the microvasculature that affects the eyes; the kidneys, feet and brain. Like I mentioned before, it also inhibits our immune response so that the cells will lose their ability to detect or react to insulin. This then causes syndrome X, which can then become Type 2 Diabetes and then finally Type 1 Diabetes. Dr. Cass has

started calling metabolic syndrome as METAOBESITY Syndrome which is a good name for it even if the patients aren't overweight!

Ask your patients if they ever suffer from hypoglycaemia (you know blood sugar disregulation)? That's the kind of thing when people feel kind of jittery when they don't eat small frequent meals throughout the day. At the Academy we've been calling that a Refined Food Handling condition and you certainly can understand why!

Also, take a look in your patient's mouth and nine times out of ten I see people have amalgam fillings in their mouth. This plays a huge role on the body's stresses.

So the first thing we need to fix of course is the adrenals, liver and the pancreas. However, make sure you stabilize the cellular communication pathways (RCCP™) and the gut connections. I have already briefly touched upon the adrenals in the past and last week we looked at the liver, so now it is time to concern ourselves with the pancreas.

The first remedy I immediately head for when it comes to sugar disregulation is *GlycoPan-Tox*. And I LOVE this remedy for pancreatic health. Now of course, remedies aren't everything, I mean the thing you really need to do is to clean up somebody's diet; and that means really teaching them a healthy way to eat. A lot of our work is about education, wouldn't you agree?

But until people have made those types of food choices and the changes necessary in their life, you need to give them some remedies to help get them back on board.

So, *GlycoPan-Tox* is a great one, this is spagyrically processed botanicals in a

homeopathic form. In other words, this has very low potentized botanicals in it, along with causal chain homeopathics. Dr. Paula Rochelle has been using this with homeopathic l-dopamine with such wonderful results that Dr. Cass is adding this to the remedy. It's really a wonderful remedy. And as we all know, very low potentized botanicals provide drainage and decongesting properties to help compliment detoxification in support of the organs.

An interesting thing to note is something that I read about on the product monograph for *GlycoPan-Tox*, (and if you don't utilize the Physica Energetics website and read the monographs you are really missing out on a lot of excellent information). At the bottom of the *GlycoPan-Tox* monograph it says that studies suggest that 10-30% of the patients that take metformin, which is a medication for diabetes and blood sugar disregulation, show evidence of reduced Vitamin B12 absorption. So if you know of anyone on metformin make sure they are taking the *Methyl-B12 Liposomal Spray*. This formula includes the assimilable forms for B12 and folinates along with the necessary co-factors. I use it also for hypo methylation problems which frankly I see in a very high percentage of my patients...!

So pancreatic insufficiency is characterized in a person by impaired digestion, malabsorption and nutrient deficiencies. Patients may also complain of abdominal discomfort or nausea when they have pancreatic insufficiency. *Methyl-B12 Liposome Spray* and *GlycoPan-Tox*!

Another indicator for pancreatic insufficiency that you might not be aware of is intestinal overgrowth of *Candida*, or bacteria or mycoplasmas or yeast and protozoa. You can

also find liver flukes, worms in the small intestine and the colon. No wonder the adrenals and the thyroid become fatigued! Remember, whenever you're working with the endocrine system you MUST ALWAYS concern yourself with the liver!

It has always been interesting to me that one of the common causes of *pancreatitis* is *gallstones*. Always check the biliary tree! You will find stones or sediment, parasites and bacteria.

Remember the wonderful products we spoke about the other week in relation to gallstones and the gallbladder? *GB-40 Yuan Source*, *Hypo Zymase*, *Queen of the Meadow Intrinsic*, *Hydrangea Intrinsic*, *HepataGest Powder*, *GB-Milieu* as well as *MetPhos* to soften those stones.

The frequent consumption of alcohol actually contributes to pancreatitis also. So people who do a lot of binge drinking or eat lots of meals, and you are likely not going to change their behaviour, make sure you get a good enzyme onboard to help with their digestion (*Hypo Zymase*, *CataZyme-7* or *CataZyme-U*, *HepataGest Powder*, etc).

You know, it is not only your diet that can change the blood sugar system so it becomes disregulated or unbalanced; it can become unbalanced with xenobiotics; different hormonal imbalances; we talked about stress and poor diet; but also lack of exercise or the lack of rest can also play a huge role in blood sugar disregulation. I don't think I've ever seen a person with a blood sugar disregulation who doesn't have an adrenal problem and if a person has an adrenal problem, we can almost guarantee they have a thyroid, liver and blood sugar problem.

So the *GlycoPan-Tox* does not have to be dosed that high since it's a homeopathic detoxifier, and I generally dose this at 120 drops twice daily.

Make sure you give the proper adrenal support with the *Adrenal Life Force*, *Licro Intrinsic*, *Bio-Omega 3* and *SpectraLyte*. Plus a BioToxicosis remedy, either *Lymph 1, 2 or 3*, as adequate systemic drainage is paramount. And of course, make sure you have on board proper liver support with the *HepataGest Powder*, *Liver Milieu*, the *Dandi Intrinsic* and/or the *Carduus Marianus Intrinsic*.

I think I mentioned that I was in Santa Barbara studying with Dr. Cass recently he showed me several new formulas which are in production as we speak. 20 of them! I'm just going to leak a few: a pancreatic glandular/enzyme/nutritional and botanical formula – can't wait! A specific, VERY high end blood sugar formula the likes which we have never seen. A number of hormone glandular centered nutritional complexes addressing the thyroid, thymus and HPA Axis. AND some significantly unique liposome formulas and the list goes on. He's been working very hard on these formulas for several years. As we all know he won't release them until they are perfectly synergistic at both the level of the Earth and the Heaven as he describes it. In other words – physically and energetically. Some of these have been in the works for many years. He is so meticulous...!

I see that we've gone over our time today but I have something that you probably won't hear about very often if at all. Can I ask you to stay with me for just another few minutes?

*OK, here's a major clinical pearl!*

If you check somebody's blood sugar using a glucose monitor and the person is taking large amounts of Vitamin C orally or Vitamin C intravenously, it will artificially elevate the blood sugar reading on the glucose monitor. The reason being is that the molecular structure of Vitamin C almost mimics that of glucose. So it is going to appear that blood sugar is elevated when in actuality it actually might be low.

Just a little clinical thing to think about if you are doing finger sticks on people who are either getting intravenous Vitamin C or oral dose Vitamin C remember this.

Now I do a lot of work with people who have metabolic diseases, specifically I work with a lot of people who deal with cancer. Now I don't treat cancer, I just bring the body back to balance so that the body can take care of itself.

As we all know, anyone who has cancer is always encouraged to go on a very low glycemic diet, because sugar feeds cancer. In other words, if a person has a dose of sugar it's going to feed the cancer first and then feed the rest of the body. So it is usually recommended that someone stay on a low glycemic diet.

You can actually use this to your advantage when you are treating someone with cancer, in that cancer is what's called an obligate glucose metabolizer - the primary fuel source being sugars! So that being said cancer cells have a lot of what are called IgF1 (Insulin-like Growth Factor 1) and also glucose receptors on their cell surface, many, many more than a normal cell. And it's set up that way because they feed on sugar.

I'm involved with a bunch of clinics that do *Insulin Potentiation Therapy* or *IPT* and it is a

great treatment that can be used with people who have cancer. What happens is this; if you give a cancer patient insulin and it lowers their blood sugar, then an interesting thing happens to the cancer cell. When the blood sugar hits 40 there is actually a membrane shift. So you have the membrane which is actually made up of *stearic acid*, it's very waxy and very hard. So when the blood sugar hits 40 an enzyme called *Delta 9-Desaturase* turns the membrane shift from stearic acid which is waxy and hard to *oleic acid* which is an essential fatty acid.

The cell membrane then becomes ready to accept almost anything that you put into the body. You could use things like chemo therapy or you can use anti-virals or anti-fungals, etc. You know cancer has a viral or fungal component, right? If you give them that at the therapeutic moment when there is a shift on the cancer membrane from stearic acid to oleic acid, the chemo therapeutic agents or drugs or

botanicals that you decide to use, will go right into the cancer cell. This membrane shift does not happen to normal cells.

So it's a really, really great way to utilize cancer's metabolic process to fight against it! It's called Insulin Potentiation Therapy and if you would like more information on it you can just send me an email and I would be happy to discuss it with you.

Anyways, that really is about all the time we have right now....

REMEMBER: *In a New York minute, everything can change.*

*Hopefully this will get you started or at least remind you of what you may have already known, but forgotten.*

*I'm Dr. Stephen Atkins and this has been Field Notes and I'll see you next week.*