Medical Hypothesis

Redefining The Role Of Insulin In The Human Body

INSULIN: Could It Play A Critical Role In Metal Detoxification [And Possibly Act As A Critical Rejuvenation Factor For the Body]?

Implications For Diabetes, Iron Deficiency, Anemia, Iron Overload,

Autism, Schizophrenia, Alzheimer's, Down Syndrome, ADHD and Cancer

Also discussed: The Role of Prenatal Vitamins, Iron Fortified Baby Foods/Formulas... Poison In A Bottle!

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PDF File - (most current version is still online version... sure way to tell if you have most up to date document is to check the number of references - currently, there are 200! Updates added to the online paper are noted in red along with a date next to them like this: [UPDATE JAN 2006..... at the end of it, you will see [END OF UPDATE]). Other Updates To This Critical Paper or "interesting things" that may also come into play in all this will be posted here: Updates To Insulin Paper (read main paper first or else this won't make sense to you).

This paper, like everything else on my site, is written in simple words as I have always considered my primary audience to be that of families impacted by disorders such as autism-schizophrenia-Alzheimer's... what I now very much saw as the same disorder - over the life spectrum.

For those of you who may be shocked by that comment, I encourage you to view the information posted on my website, http://www.autismhelpforyou.com entitled: Alzheimer's - Is It Autism - In The Elderly?© Autism - Alzheimer's - Schizophrenia Unbelievable, Undeniable & Compelling Parallels! [1] as well as the information posted on my website looking at the very undeniable history linking all three of these disorders: Why Our Mental Illness Classification System Is Outdated And Invalid! A Critical Lesson In History of Autism-Alzheimer's-Schizophrenia - Unbelievable Ties! [2].

Indeed, after reviewing this information, many will find that with well over 100 parallels across these disorders (and these were just the ones I - a mother - had found), and their very undeniable historic ties, one could certainly argue that these disorders had much more in common than they did in terms of differences. Note also that when it came to the

"classification" of these disorders, the primary classification criteria certainly appeared to be that of "age of onset".

As you review the information looking at the parallels and the history of these disorders, I ask that you keep the following in mind:

1. THE HUMAN BRAIN IS NOT A CONSTANT. It changes tremendously over time and as such, what is considered "developing" also changes over time.

2. According to the Simpsonwood meeting transcript on mercury in vaccines, the following was stated:

Dr. Keller, pgs. 116 & 118: "…we know the developing neurologic system is more sensitive than one that is fully developed…" [3]

This, in my opinion, is a critical piece to the puzzle of mental illness – the implications of which appear to not have been fully recognized. I suspect that this may also be key in many, many other disorders as well.

If indeed metals target or most devastate developing cells, that would have major implications for all these disorders given the human brain - and indeed - the body - is not a constant over time... and indeed, research certainly shows tremendous change in the brain over the lifespan [4-9].

In the young child, the cerebellum is one of the most immature parts to the brain - taking 20+ years to mature [4]. Not surprisingly, this is exactly one of the areas "most hit" in autism.

In the young adult, the brain undergoes a tremendous wave of development with puberty onset [4, 5]. Not surprisingly, in schizophrenia, instead of the normal gray matter thickening we should be seeing, there is a tremendous LOSS of gray matter with puberty onset [7, 191, 192] - most likely resulting in the "odd" things we see in schizophrenia such delusions, hallucinations, forced thinking, depersonalization, loss of sense of reality, altered sensory perception and on and on and on. Note that all of these things are known to occur in persons who suffer from "aura continua" [190] or ongoing epilepsy and note that persons with schizophrenia are known to suffer from "aura continua" or "ongoing epilepsy"! I think given the tremendous LOSS of gray matter with puberty onset [7, 191, 192] seen in persons with schizophrenia that there can be little doubt that seizure activity such as "aura continua" is most likely occurring in these persons. Thus, if indeed the brain should *normally* undergo gray matter thickening with puberty onset, surely these would be "developing cells" and if metals are most targeting or devastating to "developing cells" - as stated by Dr. Keller during the Simpsonwood meeting [3], then, once again, this would appear to explain a great deal and that is why, in my opinion, autism, schizophrenia and Alzheimer's may truly be representative of "epilepsy at its worse"[193]! Note also the comment in the article on gray matter loss in schizophrenia - a comment stating that a "non-genetic trigger"[192] appears to be at play in the initial onset and progression of the disorder!

By the time a person is elderly and is said to have Alzheimer's, the cerebellum and the gray matter thickening that should normally occur at puberty onset have had the opportunity to run

their course of development. However, parts of the brain that continue to develop new cells throughout most of a person's life are the hippocampus and olfactory bulb [8, 9]. Again, not surprisingly, the hippocampus is one of the areas most impacted in Alzheimer's. The olfactory system is tied to many, many functions - memory, imagination, concept of self, etc. - much more than just "smelling". Indeed, if metals target immature cells, potentially, via the olfactory system, many other systems could be devastated as well. For my thoughts on the possible implications of the olfactory bulb development over time as it relates to mental illness, refer to my third book, posted in full on my website, http://www.autismhelpforyou.com.

Thus, truly, given the brain is not a constant over time, it very much appears that if metals target or most devastate immature cells that this may explain a great deal in terms of any differences we do see in these disorders given what is considered to be "developing" in the human brain changes over the life spectrum. That, however, does not take away the fact that the underlying cause to autism, schizophrenia, Alzheimer's - and I suspect many, many other disorders - may indeed be metal toxicity!

With that stated, let us now take a look at what I believe may be a critical role for insulin in the human body - metal detoxification - a role that may very well explain the worldwide explosion in diabetes.

Insulin is a hormone produced by the body. Its primary role has always been thought of by the scientific community as that of involving the regulation of glucose levels. When a person eats, glucose levels go up. Insulin then enters the blood stream to help lower and/or regulate glucose levels. Glucose is a sugar found in the blood. Insulin acts to reduce glucose levels and thus in the regulation of blood sugar levels.

The International Diabetes Foundation (IDF) estimates that there are currently 194 million diabetics worldwide and that by 2025, that figure could swell to an amazing 330 million people living with diabetes [10].

The IDF would attempt to tell us people are developing diabetes because they are fat and that if they fight obesity, they will help prevent diabetes. Well... given my research, I now suspect that people are obese BECAUSE they are diabetic - not the other way around - that they are diabetic because they are obese.

In my opinion, obesity is the result or "the effect" - not "the cause" - of diabetes or insulin issues - insulin issues that, in my opinion, have roots that very much extend into the realm of metal toxicity!

UPDATE MAY 2005: It certainly appears there is support for this theory... that "insulin resistance" comes first - THEN obesity [188, click on link for more on this issue]. When insulin resistance was induced in mice... the desire to over-eat seemed to be triggered... but note... the "insulin resistance" came FIRST - and THEN - the obesity! So.. just as I suspected, insulin resistance may be causing the obesity... not the other way around - that obesity causes diabetes... as those at the CDC and FDA would love us to believe! I quote:

I quote from this article posted at the above mentioned link:

"A new study led by scientists at Joslin Diabetes Center and a German university links the insulin signaling system in the brain not only to the onset of type 2 (adult onset) diabetes, but also to appetite control, obesity and even infertility. Using genetically-altered laboratory mice, the researchers found that the mice in which insulin action was blocked gained weight at a considerably higher rate than their counterparts, developed resistance to insulin action in other tissues of the body, and exhibited a 50 percent decrease in fertility.... We found evidence of a decrease in the ability of insulin to lower blood glucose (sugar) levels, increased appetite, obesity and increased infertility in the genetically altered mice in which the insulin receptor in the brain had been genetically knocked out," said Dr. Kahn, the Mary K. Iacocca Professor of Medicine at Harvard Medical School." [188]

It was also recently disclosed via research that being slightly overweight may actually be protective [189] - not surprising given we store toxins in fat! I quote from an article on this issue:

"The federal government greatly overestimated deaths from obesity in the United States, according to new CDC estimates, which now ranks it as the No. 7 most-preventable cause of death, rather than No. 2...The study, led by Katherine M. Flegal of the National Center for Health Statistics, a branch of the CDC, analyzed mortality according a person's to BMI, or body mass index, which measures weight and height. It determined that being modestly overweight, but not obese, "was not associated with excess mortality" or a shorter life expectancy. In fact, the research shows that being overweight is actually less of a mortality risk factor than being of normal weight..."[189]. [END OF UPDATE].

UPDATE FEB 2007

Research also shows that obesity is a sign of cellular oxygen depletion. [200] [END OF UPDATE]

I now suspected that diabetes was but one of the many signs of metal toxicity!

Why do I state that?

Where do I start explaining my views on this given there is so much that appears to be at play here?

Perhaps the best place to start is to show the undeniable role of insulin in disorders such as autism, schizophrenia and Alzheimer's - keeping in mind the very common parallels and history behind these disorders.

Autism used to be called "childhood schizophrenia" [11]

Schizophrenia used to be called "dementia praecox". Schizophrenia was discovered by Emil Kraepelin [12].

Alzheimer's also used to be called "dementia praecox" (an apparently "early term" to refer to "dementia"). Alzheimer's was discovered by Alois Alzheimer - a man who worked with Emil Kraepelin and was considered his protege [12, 13].

Again, for much more on this issue of "history" of these disorders please refer to the history information referenced above [2]. The point I wish to make here is simply that autism used to be called: "childhood schizophrenia".

Note was what used in the treatment of schizophrenia - dating back to the 1940s... INSULIN [14]!

Please take the time to view the image posted at the following website - it speaks volumes: http://www.priory.com/homol/insulin.htm. It is entitled The Insulin Treatment of Schizophrenia, An Introduction To Physical Methods of Treatment in Psychiatry (First Edition) by William Sargant and Eliot Slater (1944, Edinburgh, E&S Livingstone).

Thus, there could be no denying that insulin had been recognized as playing a role in schizophrenia a very long time ago.

But what about autism and Alzheimer's?

Well... studies were currently underway by Repligen to look at secretin - a precursor to insulin - for the treatment of autism and schizophrenia. Results had been quite mixed and indeed, studies for the use of secretin in autism had failed in early 2004. I suspect that may be due to several issues and that of course, metal toxicity may play a role in that.

Before considering secretin as a possible "treatment" option for any of these disorders, I encouraged all families/researchers, etc. to read what world leading immunogeneticist H. Hugh Fudenberg has to say about the potential dangers of secretin therapy in his article entitled: A Warning About The Use Of "Fad" Treatments Such As Secretin In Autism, posted at: http://www.nitrf.org/Fadtreatmentswarning.htm [15].

It is also important to note that according to Dr. Fudenberg, if an individual had 5 consecutive flu shots, that person was 10 times more likely to develop Alzheimer's than a person who had 2, 1 or no shots and he very much attributes that to toxins such as mercury and aluminum found in vaccines [16]. Note Dr. Fudenberg's "career highlights" or "credentials" as posted at http://www.nitrf.org/career.html - for those who would ask: "Who is this man to make such a controversial statement?"

Dr. Fudenberg clearly has done a tremendous amount of research in matters relating to autism, Alzheimer's... and yes, even schizophrenia appears to be on his plate. For those interested in his papers, you could find them on his website, http://www.nitrf.org.

Thus, although immunologists certainly saw issues with the use of secretin, again, their could be no denying others had seen secretin might play a role in autism... but, was it the secretin or was it perhaps the fact that secretin was a precursor to insulin... and thus, could it be the insulin that might really play the beneficial role in autism?

Another telling article was certainly one entitled: Studies of Secretin-Stimulated Insulin Response In Man [17]. In this article it was hypothesized that glucose and secretin may stimulate "different pools of insulin" in the human body. This one, I considered another "must read article". It was mentioned in this article that both secretin and glucose appeared to

stimulate a rapid insulin response and that the effects on insulin varied depending on glucose and secretin levels. I quote:

"Thus during studies in which a diminished acute insulin response to glucose is observed, the acute response to secretin is increased; and conversely, when a decreased acute insulin response to secretin is observed, th subsequent acute response to glucose is increased... an alternative hypothesis may be considered: that glucose and secretin may stimulate separate functional storage pools of immediately releasable insulin. Such a hypothesis would explain the diminished insulin response to both the multiple secretin pulses and during the short glucose infusion by postulating independent storage pools of insulin for glucose and secretin. The augmented rapid insulin response to secretin observed during the short or long glucose infusion suggests a transient enlargement of the storage pool available for secretin stimulation which is glucose-dependent, since it is not present after the infusion is stopped; while the increased response to the second glucose pulse after four secretin pulses would suggest enlargement of the glucose-responsive pool which is secretin dependent... All of these data are compatible with the concept that glucose and secretin stimulate separate functional pools of insulin, the output from either pool being partly determined by the prior exposure of the islets to the other stimulus "[17].

Thus, this certainly could play into "mixed results" for secretin studies for autism and schizophrenia... although I suspect other things play into that as well... things involving metal toxicity... as we shall see. Thus, so far, we had certainly seen the fact that there were possible implications of insulin in both autism and schizophrenia.

But what about insulin and Alzheimer's?

Well... again, the implication of insulin in Alzheimer's has certainly been documented as researchers are now showing that persons with diabetes have a significantly increased risk for Alzheimer's. I quote:

"Diabetes mellitus was linked to a 65 percent increased risk of developing Alzheimer's disease (AD)... " [18].

But, is it the diabetes that is increasing the risk of Alzheimer's or is diabetes just "an indication" of a deeper underlying issue – perhaps an issue of metal toxicity?

Of course, there are always two sides to the coin...

Is it the diabetes that increases your risk of Alzheimer's disease or is it Alzheimer's that increases your risk of Type 2 diabetes? As the old expression goes... "It is all in the eye of the beholder". I quote:

"These data support the hypothesis that patients with Alzheimer disease are more vulnerable to Type 2 diabetes and the possibility of linkage between the processes responsible for loss of brain cells and ß-cells in these diseases" [19].

UPDATE - DEC 2005: Note also that persons with schizophrenia are also more likely to develop... diabetes! [195] I quote:

"The prevalence of type 2 diabetes in people with schizophrenia can be 2–4 times higher than in the general population. The precise prevalence can be reasonably estimated to be approximately 15–18%. The prevalence of impaired glucose tolerance in people with schizophrenia may be as high as 30%, depending upon age." [195] END OF UPDATE

Some state that it is antipsychotic drugs that may contribute to this... this view has been received with much controversy... after all... the pharmaceuticals probably don't want their drugs tied to the development of diabetes! And, I would perhaps agree with them... that the diabetes may be coming from elsewhere...

Schizophrenia and its link to insulin can be traced back to at least the 1940s when insulin treatment was used to treat schizophrenia... and they certainly did not have as many "drugs" back then... so... I don't know that I personally would "buy" that argument. I think as you continue to read, you will come to see that there may be a very good reason for the development of diabetes in these disorders and that reason may be what I am proposing here... that insulin may play a critical role in metal detoxification! END OF DEC 2005 UPDATE

Thus, all this to show that insulin appears to possibly play a role in autism, schizophrenia and Alzheimer's!

There could be no doubt that insulin is known to regulate blood sugar levels by regulating glucose levels in the blood. It is critical to note that glucose is a SUGAR! That will be quite key as we move forward in this discussion. Unfortunately, for too many a scientist, it appears the role of insulin may end in matters dealing with glucose and the providing of food to the human body.

However, there is something else that was critical that science had also shown... and it was this "something" that had come to completely change my view of the role of insulin in the human body!

INSULIN AND IRON ARE KNOWN TO MODULATE ONE ANOTHER... in other words, insulin affects iron levels and iron levels affect insulin! THAT IS KEY!

I quote from another critical article entitled "Cross-Talk Between Iron Metabolism And Diabetes" [20]: http://diabetes.diabetesjournals.org/cgi/content/full/51/8/2348:

"Emerging scientific evidence has disclosed unsuspected influences between iron metabolism and Type 2 diabetes. The relationship is bi-directional - iron affects glucose metabolism, and glucose metabolism impinges on several iron metabolic pathways" [20, emphasis added].

"Unsuspected influences" – keep that phrase in mind as we discuss the history of the diabetes-iron link later in this paper. I think you'll be VERY surprised to say the least! :o)

And, not surprisingly, Harvard had recently confirmed the same thing. I quote:

"In the first large study to assess iron stores and risk of Type 2 diabetes in an apparently healthy population, researchers from the Harvard School of Public Health (HSPH) found that higher iron stores were associated with significantly elevated risk of Type 2 diabetes,

independent of other known diabetes risk factors. Higher iron stores were assessed by measuring blood concentrations of ferritin (a protein that stores iron in the body). The findings appear in the February 11, 2004 issue of the Journal of the American Medical Association (JAMA)"[21].

Well... that certainly was interesting... higher iron stores in women predict a much higher risk for Type 2 diabetes...

Now... where could women be getting all those "higher iron stores"? Another critical piece to the puzzle... PRENATAL VITAMINS.

Via prenatal vitamins, over the course of just 7 months, women could be getting close to an additional 5 grams to almost 20 GRAMS of iron - depending on the brand of prenatal vitamins used given prenatal vitamins could provide doses of iron of up to 90 mg/day [22].

Almost 20 GRAMS… keep that amount in mind as we later discuss how much excess iron in the body leads to damage to critical organs…

Now, there certainly is an issue for me here given the RDA for pregnant women is about 30 mg/day of iron [22].

So, why are some prenatal vitamins allowed to give women 3 times that much. And, keep in mind, this is from prenatal vitamins alone... our diet, water, etc. are also other potentially very high sources of iron... and also, during pregnancy, a woman did not have the menstrual flow and hence, even more iron is retained.

Interestingly, we have all heard the old joke that women crave pickles and ice cream during pregnancy.

Could this be because both could impact iron absorption? Calcium is believed to possibly prevent iron absorption [23] and vinegar is believed by some to be a natural iron chelator [24]. Salt is known to impact iron binding properties of human transferrin [25] and appears to play a role in providing more oxygen to hemoglobin [26].

Salt cravings are certainly something I had seen in my own son.

Tea is also known to prevent iron absorption [23] and interestingly, parents of children with autism often find that Ojibwa tea seems to help their children [for that one, you'll need to go on a parent discussion board such as the Yahoo Group, Enzymes and Autism and ask parents about Ojibwa Tea, http://health.groups.yahoo.com/group/EnzymesandAutism/].

But, again, why are some brands of prenatal vitamins allowed to give women up to 90 mg/day – or three times the RDA (Recommended Daily Allowance)?

I suspect there are doctors out there who would be quick to jump in and argue "anemia"... stating that many women are anemic during pregnancy and therefore needed "more iron".

Well... to those doctors... I would suggest that, like the majority of doctors it seems, you need to understand anemia a little more. What you may be seeing as "anemia" may actually be IRON OVERLOAD... with iron going to storage instead of blood production. Thus, giving all that "extra iron" may be very, very dangerous given iron is now linked to many, many diseases and is known to feed bacteria, viruses, parasites, and cancers as well!

UPDATE JANUARY 2006: Note also that fatigue is a sign of iron overload in women according to the Merck Manual section on IRON OVERLOAD. Also note that diabetes is a sign of iron overload. Remember, women today, often develop, "gestational diabetes"... prenatal vitamins are LOADED with iron! From the Merck Manual, Section 11, Chapter 128, Signs and Symptoms of iron overload - I quote:

"In women, fatigue and nonspecific constitutional symptoms are early findings; in men, cirrhosis or diabetes is often the initial presentation." [196]. END OF UPDATE

But, getting back to iron as it relates to "anemia" and the fact that "anemia" may really be a sign of iron overload, perhaps the best article I had read on the issue of "anemia" was one written by Roberta Crawford, President of the Iron Overload Diseases Association. This article on anemia was posted at http://www.ironoverload.org/anemia.htm and was so critical that it had been reproduced here in full with the permission of Roberta Crawford.

Given iron and insulin are now known to modulate one another, understanding iron issues such as "anemia" is key!

I quote:

"A New Perspective on Iron Deficiency

Presentation Given by Roberta Crawford in June 2001 at NIH Workshop in Bethesda, MD

A prevailing myth says that iron deficiency is the world's greatest nutritional problem.

Let's define anemia: a deficiency of red cells or hemoglobin, or red cells that die too young or are discolored or possess an abnormal shape, or red cells that lack adequate iron.

Now defining iron deficiency—so-called "normal" iron levels vary from lab to lab. Most "normal" levels are set too high. Saturation: 12 to 40-45% is reasonable at the present time. Ferritin: 5 to probably 50. As our years of study have shown, we have had to lower these levels several times to be safe.

Think about it. If "normal" levels are set artificially high, and your levels fall below that "normal," you are "iron deficient."

So how much iron does the human body really need? Iron is not excreted. The iron you absorb stays and accumulates in storage except that you can lose one milligram a day through hair, finger nails, skin cells and other detritus. That is the amount needed every day to replace the loss. One milligram. (Women in reproductive years, one and a half milligram). The RDAs or

RDIs recommended by the Food and Nutrition Board is out of date and incorrect. The other way to lose iron, of course, is by blood loss.

The normal levels of iron need to be lowered.

Hemoglobin is not iron! Unfortunately physicians prescribe iron to anemic people who test with low hemoglobin. Yes, the patients are anemic, but the iron is collecting in storage instead of going into hemoglobin. These people are iron-loaded. They need iron removed despite the anemia. The anemia should be treated with B vitamins, especially B12, B6 and folic acid. Many patients with anemia are dying of iron overload, and some are hastened to their death by their physicians who give iron. Blood banks seem to believe that hemoglobin and iron are the same. They have prepared lists of high iron foods to give out to donors with low hemoglobin. They invariably tell these people: "Your iron is low." Dangerous misinformation.

Physicians like to diagnose or rule out a disease called hemochromatosis. That causes confusion and many problems. There is no consensus. Doctors hesitate to treat without a diagnosis. Too bad that word was ever invented. Each patient is different with different symptoms and different iron levels.

First: treatment does no harm whether there is excess iron or not. A cutoff is set on hematocrit to prevent severe anemia, and when the patient tests under that cutoff, blood is not taken that day. Giving blood is beneficial.

Second: even a small amount of excess iron can damage heart and brain and other storage sites in the body and lead to heart attack or stroke. It is foolish to wait until iron levels confirm "hemochromatosis."

There is exaggerated concern when hemoglobin falls temporarily, following surgery, for example. Blood transfusions are over-used. A study shows that surgery patients who do not receive transfusions survive better than those who do. [NEJM Feb 1999 340:409-17]

Before taking iron you must test saturation and ferritin. (Ferritin indicates storage iron, which is not essential to maintain life). If both saturation and ferritin are extremely low, you must discover why. Low iron is a signal that iron is being used by cancer cells or is feeding bacteria, or usually it means there is chronic daily blood loss. The bleeding could be from an ulcer or tumor, etc. The source must be found.

Iron is in just about everything. If you are not absorbing the one daily milligram, you are truly on a starvation diet, and low iron is the least of your worries" [27, emphasis added].

Thus, what many doctors may see as "anemia" may actually be IRON OVERLOAD manifesting itself with iron going to storage instead of blood production... and as such, according Roberta Crawford's article on iron overload, giving an "anemic" person iron may actually be precipitating that person's death!

Given iron and insulin modulate one another and insulin, given the diabetes explosion and given insulin is now absolutely linked to mental illness, the implications of this may be huge indeed!

For those interested in learning more about the dangers of iron overload, Roberta Crawford had also written 1) The Iron Elephant: What You Should Know About The Dangers Of Excess Body Iron and 2) Tick... Tick... Tick... (Suspenseful Tale Of Outrageous Medical Ignorance). Both books are available via the Iron Overload Diseases Association at http://www.ironoverload.org/.

So... although the government would like us to believe that we need "all that iron" and recommended levels are set at 30 mg/day for pregnant women, and the FDA sees no problem with allowing some manufacturers of prenatal vitamins to provide up to 90 mg/day of iron or a whopping almost 20 extra grams of extra iron over the course of pregnancy – it obviously looks like even the 30 mg/day of iron may be much, much too high and that the body only need 1 mg/day of iron.

Again, keep that "almost 20 grams of extra iron" in mind as we later discuss how much extra iron is needed before we see damage to the organs!

A daily requirement of perhaps as little as 1 mg/day of iron - interestingly, that is exactly about how much iron a newborn receives via breastmilk [28, 29]! "Just coincidence"?

Note that iron concentration from breastmilk is not dependent on the mother's iron status. Breastmilk iron remains at a constant of about 0.5 mg – 1.0 mg/l [29]. Think that might tell us that our infants really don't need that much iron?

Note that according to the NIH Office of Dietary Supplements, there is no set RDA for iron for infants age 0 to 6 months. I quote:

"There is not enough evidence available to establish a RDA for iron for infants from birth through 6 months of age. Recommended iron intake for this age group is based on an Adequate Intake (AI) that reflects the average iron intake of healthy infants fed breast milk [1]"[30]

Table 4 shows that for this age group, there should probably be a daily intake of about .27 mg/day and that appears to be based on figures for healthy breastfed infants according to the website. I suspect, however, that the government completely forgot about all that excess iron from prenatal vitamins that could find its way to the unborn child - via the placenta!

And of course, not surprisingly, it is also known that the body's intestines only absorbed about 1 mg/day of iron. Again, I quote:

"Iron balance differs from that of other trace elements in that it is regulated primarily by absorption, not excretion. Because the body's ability to excrete iron is very limited, intestinal iron uptake is closely restricted to about 1 mg/day, which is the amount usually excreted daily in the urine and feces." [31]

1 mg/day of iron from breastmilk… 1 mg/day of iron absorbed via the intestines… 1 mg/day of iron excreted by the human body… all "just coincidence", of course!

So, how much iron do we really need? Perhaps only 1 mg/day... exactly the amount absorbed by the intestines each day!

The body has no good mechanisms for getting rid of excess iron! **I quote:**

"Iron is very active chemically.

For example, it

*** binds nonspecifically to many proteins, with deleterious consequences to their structures.**

*** acts catalytically in assorted oxidation reactions, such as peroxidation of unsaturated lipids in cellular membranes.**

Because of this it is always found in bound form.

It therefore does not get excreted. Iron is lost from the body only by processes such as

*** bleeding**
*** sloughing of cells**
*** menstrual flow**
*** transfer to a developing fetus**

The body's iron content is regulated by controlling absorption." [32, emphasis added].

Of course, you can also add hair/nail growth to the list of how we excrete iron... perhaps explaining why so many women state their hair/nails seem to grow so well when they are pregnant. No reference on this one... just something I know from conversations with other women.

Note that a 70 kg male (that's about 150 pounds) has about 3.7 grams of iron in his body [32].

Does anyone see a little insanity here? A 150-pound male has only 3.7 grams of iron in his body, and yet we are pumping pregnant women with iron doses of up to almost 20 grams of extra iron over the course of just one pregnancy?

Should we not be very concerned about the health of the mother and her unborn child given these astounding figures?

According to the Merck Manual, iron, like mercury, appears to lodge preferentially in the unborn child before the mother. I quote:

"Because iron is preferentially transported across the placenta, the neonatal Hct is generally normal despite maternal anemia, but total iron stores in these newborns are usually reduced, indicating a need for early dietary iron supplementation" [33].

So, what most doctors and indeed researchers and pharmaceuticals see as "anemia" may truly be "anemia" not due to lack of iron but due to IRON OVERLOAD!

And, not surprising to me, studies on iron supplementation during pregnancy are - and I quote - "almost non-existent" [34, emphasis added].

Was this, another case - as in the case of mercury and aluminum in vaccines - where we simply assumed the studies had been done?

Mercury is an endocrine system disruptor and as such it would impact insulin.

Mercury is a very toxic substance, continually added to childhood vaccines, pharmaceutical and household products, and yet, its safety in vaccines (and I suspect in many other things) has never been evaluated.

Not once in 80 years did the pharmaceuticals test the safety of mercury in vaccines! I quote Dan Burton during the June 2002 Government Reform Hearings on this issue, as reported by WFAA-TV's Valerie Williams:

"You mean to tell me that since 1929, we've been using Thimerosal," Congressman Dan Burton (R-Indiana) said to the officials, "and the only test that you know of is from 1929, and every one of those people had meningitis, and they all died?" For nearly an hour, Burton repeatedly asked FDA and CDC officials what they knew and when they knew it. And when memories seemed to be a bit fuzzy, the congressman produced old memos as a refresher. One memo, from 1999, states that the FDA had an "interim plan ... already in place for many years" to get rid of Thimerosal. The same e-mail also addresses the FDA's fear that it will be accused by the public of being "asleep at the switch for decades, by allowing a dangerous compound to remain in childhood vaccines" [35].

I suspect we may very well find the same to be true for iron in prenatal vitamins!

1 mg/day of iron (what the body absorbs via the intestines daily, what is provided via breastmilk, what is lost daily by the body), 30 mg/day (the RDA for pregnant women) or almost 100 mg/day (what is provided via some brands of prenatal vitamins)? Who to believe?

For those wanting an answer to that, I suggest you read my information on "The Aluminum Connection" [36] and "Reports Attorneys For The Vaccine Injured Will Surely Want To See" [37], for more on the "expertise" of those in our government agencies who set "safe minimum exposure levels" to toxic substances. These are posted on my website, http://www.autismhelpforyou.com. These links do not discuss iron per se, however, they do certainly give one "an idea" as to "the expertise" of those in the CDC, FDA and pharmaceutical industry when it comes to matters of "safety" [too much to go into in this paper but certainly a "must read" for those with an interest in this issue].

Now keeping in mind that iron and insulin modulated each other... let us also not forget something else when it came to pregnancy.

Gestational diabetes affects about 4% of all pregnant women - about 135,000 cases of gestational diabetes in the United States each year [38].

Thus, if iron and insulin modulate each other and higher body iron stores are now known to increase a person's risk of developing Type 2 diabetes [21] - the question becomes:

Are women developing gestational diabetes because of the toxicity of iron from high iron doses from prenatal vitamins and is gestational diabetes a way for the body to attempt to deal with that toxicity - a possible attempt at metal detoxification that would very much involve - insulin?

Something else was very interesting in gestational diabetes. Note that at week 28, fetal blood (the globin part of the blood) was supposed to switch from 2 alpha + 2 gamma proteins to 2 alpha + 2 beta proteins, but in mothers with gestational diabetes, that switch in the infant's blood is delayed to week 36 – 39 of gestation. This switch involves the globin part of the blood in the infant, and hence, that part of the blood tied to immune system functions [39]. I suspect that "switch" was delayed because beta cells appear to be somehow more susceptible to metal toxicity!

What this tells me, however, is that, potentially, the "immune system part of the blood" may be delayed almost 3 months in the child of a mother with gestational diabetes. Thus, potentially, I could have a full term infant with a very delayed immune system – an infant that is then greeted with a battery of mercury and aluminum laced vaccinations – not to mention the iron overload from which the child may already be suffering!

Over and over I had seen implications for the word "beta" in my research and I am now convinced that beta cells – both those of the pancreas that produce insulin as well as the beta cells of the globin part of the blood – appear to be very much impacted by metal toxicity. It is also interesting to note that in the University of Calgary video on neurodegeneration due to mercury exposure, the mercury was shown to affix itself to "the beta subset of newly synthesized tubulin molecules". I quote:

"The mercury attaches itself to the GTP site in the beta subset preventing tubulin proteins from binding together and hence this striped neurites of their supporting structure, thus resulting in the collapse of neurons. GTP provided the energy for molecules to bind together." [40, emphasis added]

I personally was not diagnosed with gestational diabetes, however, I knew of many a mother who had been and these mothers now found themselves with children who have autism!

Also, I was a blood donor for years and that, surely, would have helped flush excess iron from my body and may have reduced my iron load enough so that I was not technically diagnosed as having "gestational diabetes". I also ate a lot of dairy products and drank teas... both known to help reduce iron absorption [23]!

I do very much suspect, however, that my unborn son, a little boy now on the autism spectrum, had been the unfortunate recipient of much of that excess iron that had found its way into my body via prenatal vitamins. Let us remember that iron is preferentially passed to the unborn child [33]!

Perhaps I was not diagnosed with "gestational diabetes" because my body had simply been "more effective" in flushing that excess iron by passing it on to my unborn child. :o(

I now very much suspect that iron overload due to toxic doses of iron from prenatal vitamins could be one of the primary reasons we now see so many miscarriages.

Zachary had been my fourth pregnancy. My 1st and 3rd pregnancies had both been miscarriages. My second had resulted in the birth of my wonderful daughter - Anika. As such, I would have been on many a prenatal vitamin before Zachary was born.

Clearly, there could be no doubt that my son - my beautiful Zachary - had issues with insulin right from the start and that his system - and mine - may have been seriously poisoned by prenatal vitamins!

My son Zachary had been born "low on glucose"... a clear sign of a problem with insulin - from Day 1!

Another piece to the puzzle - from this same article on gestational diabetes - I quote:

"However, untreated or poorly controlled gestational diabetes can hurt your baby. When you have gestational diabetes, your pancreas works overtime to produce insulin, but the insulin does not lower your blood glucose levels. Although insulin does not cross the placenta, glucose and other nutrients do. So extra blood glucose goes through the placenta, giving the baby high blood glucose levels. This causes the baby's pancreas to make extra insulin to get rid of the blood glucose. Since the baby is getting more energy than it needs to grow and develop, the extra energy is stored as fat. This can lead to macrosomia, or a "fat" baby. Babies with macrosomia face health problems of their own, including damage to their shoulders during birth. Because of the extra insulin made by the baby's pancreas, newborns may have very low blood glucose levels at birth and are also at higher risk for breathing problems. Babies with excess insulin become children who are at risk for obesity and adults who are at risk for Type 2 diabetes" [38, emphasis added].

"Fat babies" and "low glucose"... Not only was Zachary born "low on glucose", he had weighed 9 pounds and was considered "Large For Gestational Age" as clearly indicated in many areas in his medical records.

Again, I must ask a question: Was it the excess glucose that resulted in "bigger babbies" or was it the fact that we store toxins in fat and that iron was finding its way to my unborn child in what very much appears to be toxic levels!

How very interesting given this quote, again from the Simpsonwood meeting on the effects of mercury in vaccines:

"... the heavier babies in this cohort are more likely to have the outcome, and that is statistically significant..." (p.46 of Simpsonwood transcript) [3].

Note also that according to the Merck Manual the reason most associated with "heavier babies", or babies considered "Large For Gestational Age - LGA " is diabetes mellitus in the mother [41].

Again, keep in mind that mercury and iron both impact insulin levels [20, 21, 42, 43, 44]. I quote:

"Mercury inhibits the production of insulin" [42].

"Vaccines are the largest cause of insulin-dependent diabetes in young children" [43].

Note that "insulin-dependent" would be type 1 diabetes!

Most of this discussion focuses on "type 2" diabetes, but, clearly, there are implications in all this for type 1 diabetes also, given it very much appears to me that metals such as iron, mercury and possibly aluminum may play a tremendous role in the actual destruction of beta cells themselves! I suspect that given mercury is so much more toxic than iron that it may just play a much "faster" role in this destruction - destroying the very systems that may be responsible for metal detoxification.

Indeed, if the systems that are responsible for metal detoxification must be able to "bind" to these metals, it would make sense that they would somehow "attract" the metals in order to perform those binding functions and then rid these metals from the body. However, obviously, there can certainly come a point of "overload" at which even the systems themselves become destroyed!

I now suspect my son's immune and detoxification systems could have been very, very much impacted by iron from prenatal vitamins and mercury from my dental amalgams (silver fillings are actually 50% mercury [43]) while he was still in the womb and that his immune system was only further burdened with each and every vaccination!

Again, I was not personally diagnosed as having "gestational diabetes". Perhaps I was borderline... perhaps it was a function of when the test had been done (i.e., week 26 vs week 30 of gestation), perhaps it had been due to the fact that I had been a blood donor prior to this pregnancy and had given blood fairly regularly, perhaps my body had just been "more efficient" in passing that extra iron from prenatal vitamins on to my unborn child... and yes, perhaps there had already been a genetic predisposition (a genetic mutation) making my son more susceptible to vaccine injury or metal toxicity. Note that a "genetic mutation" could certainly be caused by environmental factors such as exposure to metals while still in the womb!

Another critical factor is also the fact that the "iron dose" in prenatal vitamins can vary tremendously… with women getting about 5 extra grams of iron on the "low end" to up to 20 extra grams of iron on the "high end" dose spectrum of prenatal vitamins [22].

This certainly could also play into the equation.

My point is that there could indeed be many reasons explaining why one could develop "gestational diabetes" while another did not and why a specific child develops autism and others did not.

Note also that gestational diabetes is also known to increase a person's risk of developing Type 2 diabetes later in life... and again, keep in mind, Type 2 diabetes is now very much associated with Alzheimer's! I quote, again from the article on gestational diabetes:

"Gestational diabetes usually goes away after pregnancy. But once you've had gestational diabetes, your chances are 2 in 3 that it will return in future pregnancies. In a few women,

however, pregnancy uncovers type 1 or Type 2 diabetes. It is hard to tell whether these women have gestational diabetes or have just started showing their diabetes during pregnancy. These women will need to continue diabetes treatment after pregnancy. Many women who have gestational diabetes go on to develop Type 2 diabetes in later years. There seems to be a link between the tendency to have gestational diabetes and Type 2 diabetes. Gestational diabetes and Type 2 diabetes both involve insulin resistance" [38].

I suspect perhaps those who do not develop gestational diabetes in future pregnancies may be women who give blood, eat dairy products, drink tea or have a lower overall dietary iron intake as these things are all known to either flush excess iron or prevent iron absorption! They could also be women who chose not to be vaccinated or who have fewer dental amalgams or "silver fillings" (which are actually 50% mercury) and as such, are exposed to less mercury while pregnant.

All of these things, could have impacted whether or not a child would go on to develop a disorder such as autism – as could, I believe, whether or not a woman had any dental work (including dental cleanings) done during pregnancy – as I had – being unaware of the dangers of releasing mercury into my body via dental cleanings. Note again, the FDA has chosen not to inform the consumer of the dangers of dental amalgam. Instead, it chose to "inform the dentist" – doing OSHA's job instead of its own [74]!

Why am I no longer surprised by the incompetence that comes out of the FDA – better known in my family as the Failing In Duties Administration!

Clearly, there are many things that play into what I had once only known as "autism"… a puzzle that now reaches far beyond anything I could ever have imagined… and it is this puzzle that has now led me to this point – a point at which I now find myself asking about the role of insulin in all this.

When looking at all of this information, again, I found myself asking: Is it really the diabetes or insulin problems that are leading to so much obesity and mental illness today?

Well... again, it was critical to remember what we had covered so far.

1. **Insulin appears to play a role in autism, schizophrenia and Alzheimer's - what appears to be the same disorder over the life spectrum**
2. **The human brain and body are not constants over time - they both change tremendously over the life spectrum**
3. **Iron and insulin modulate each other**
4. **Prenatal vitamins are LOADED with iron – providing potentially almost 90 times the body's needs on a daily basis during pregnancy!**
5. **The body has no good mechanisms for flushing excess iron**
6. **The intestines only absorb 1 mg/day of iron**
7. **We only lose about 1 mg/day – the rest goes to storage – potentially devastating all organs/systems**
8. **Via iron-fortified everything diets/water/vitamins we take in much more iron than we can ever excrete (without the use of iron chelators)**
9. **Excess iron preferentially transferred to the unborn child**

10. **Women Develop "gestational diabetes" while pregnant – a condition that usually disappears after pregnancy (when a woman would no longer be on prenatal vitamins)**
11. **The fetal blood switch is delayed almost 3 months in children of mothers with gestational diabetes – surely impacting the child's immune system given this impacts the globin part of the blood**
12. **Gestational diabetes then increases your risk for Type 2 diabetes**
13. **Type 2 diabetes then significantly increases your risk for Alzheimer's (or vice versa – depending on which side of the coin you choose to believe)**
14. **Secretin is a precursor to insulin**
15. **Glucose and secretin may stimulate "different pools of insulin"**
16. **Insulin helps to regulate glucose levels**
17. **Vaccines are considered the primary cause of type 1 (insulin dependent) diabetes in young children**
18. **There are certainly questions as to "the expertise" of those at the FDA, CDC and in the pharmaceutical industry given not a single study was done on the safety of mercury in vaccines**
19. **Studies on iron supplementation during pregnancy are virtually "non-existent"**
20. **Mercury is known to impact the endocrine (hormone) system - and insulin certainly is a hormone!**

But what else does insulin do?

As I poured over countless journal articles, countless research papers, countless news articles, looking for answers to my son's troubles, a quote I had looked at so times was finally seen in a new light:

"Insulin is known to cause a rapid and marked stimulation of iron uptake by fat cells, redistributing transferrin receptors from an intracellular membrane compartment to the cell surface (45)" [20, 45]

Why is that important? For several reasons!

Note that in addition to regulating glucose levels, insulin is also involved in the synthesis or production of fat! [46, 47]

In order to understand the importance of the above quote as it relates to insulin, iron and fat, it is critical to keep in mind 2 things. 1) Iron is very, very toxic and 2) iron and insulin modulate each other.

Let us remember that via prenatal vitamins alone women could be getting up to 90 mg of iron per day. Yet the body only absorbs 1 mg/day and also excretes about 1 mg/day.

Over the course of pregnancy, assuming that prenatal vitamins are taken for about 7 months (since a women is about 2 months pregnant before she realizes she is pregnant, goes to the doctor and is placed on prenatal vitamins, etc.) that means a woman could receive almost an extra 20 GRAMS of iron during pregnancy – from prenatal vitamins alone.

Iron is supposed to be a trace element - as clearly indicated in the above quote from the Nutrient Absorption article from the Southern Illinois University School of Medicine [31]. The work of Roberta Crawford [27] also clearly indicates that the body appears to need only 1 mg/day of iron and she states in her article entitled A New Perspective On Iron Deficiency, a presentation given to the NIH in 2001, that women in reproductive years need perhaps only 1.5 mg of iron per day - as opposed to the 30 mg/day recommended by government agencies and the 90 mg/day actually found in some prenatal vitamins!

Note that it takes only 1 gram of iron to cause severe poisoning in a child under the age of 2 and that 3 grams is a lethal dose [48]!

Actually, the USFDA itself states that even smaller doses can be lethal to a small child. I quote:

"For a small child, as little as 600 mg of iron can be fatal" [49].

For those not familiar with weights and measures, 1000 mg = 1 gram [50].

Note that this quote pertaining to the 600 mg being enough to be fatal in a small child is taken from an article published by the USFDA in 1996. Since then, this article has been "Revised – June 1997". I was unable to find the "revised version" on the Internet to see whether or not this particular comment has been changed or if it remains the same in the revised edition. Note that previous versions of the same document still had this same quoted amount of 600 mg as being lethal to a small child.

If 3 grams is a lethal dose in a child under the age of 2, and 600 mg can be a lethal dose to a small child, how much would it take to cause a lethal dose in a child still in the womb – a child with a very immature detoxification and immune system!

Let us quickly calculate how much iron a woman receives during pregnancy via prenatal vitamins alone assuming the 90 mg/day dose:

Assume 7 months on prenatal vitamins. That equals about 210 days on prenatal vitamins.

210 days x 90 mg/day = 18900 mg over the course of pregnancy or about 19 GRAMS – and that is JUST from prenatal vitamins and that is if the mother is only on prenatal vitamins for 7 months – she may be on them longer than that!

As such, it is safe to say, that with the inclusion of dietary sources, lack of the menstrual flow, etc., a woman would easily be getting up to an extra 20+ GRAMS of iron over the course of pregnancy. This is an incredible amount of iron indeed given the body only absorbs 1 mg/day via the intestines.

So, how much does that leave going to either storage or an unborn child?

Amount absorbed over 210 days = 210 mg given we absorb 1 mg/day

18900 mg minus 210 mg = 18, 690 mg or 18.7 GRAMS of excess iron –> just from prenatal vitamins over just 7 months (this does not include excess dietary iron from food and water or

excess iron due to the lack of a menstrual flow during pregnancy – yet another source of iron – for the unborn child)!

Keep in mind also that if this excess iron is indeed finding its way to the unborn child given iron preferentially crosses the placenta [33] – that unborn child has a very immature liver - the body's main detoxifying organ – a liver that is not even producing any significant amounts of bile until several months after birth - a liver that would have to also work with very immature kidneys to attempt to flush toxins from this child still developing in the womb.

I quote from Boyd Haley's testimony in Government Reform Hearing on vaccine injury:

"A single vaccine given to a six-pound newborn is the equivalent of giving a 180-pound adult 30 vaccinations on the same day. Include in this the toxic effects of high levels of aluminum and formaldehyde contained in some vaccines, and the synergist toxicity could be increased to unknown levels. Further, it is very well known that infants do not produce significant levels of bile or have adult renal capacity for several months after birth. Bilary transport is the major biochemical route by which mercury is removed from the body, and infants cannot do this very well. They also do not possess the renal (kidney) capacity to remove aluminum. Additionally, mercury is a well-known inhibitor of kidney function."—Boyd Haley Ph.D" [51].

Now, let us return to that very critical quote regarding insulin, iron and fat:

"Insulin is known to cause a rapid and marked stimulation of iron uptake by fat cells, redistributing transferrin receptors from an intracellular membrane compartment to the cell surface (45)" [20, 45].

Why else was this quote so critical?

The body stored TOXINS in fat! [52].

I quote:

"Detoxification is also an important component in treating obesity. Many of the toxins we ingest or make are stored in the fatty tissues: hence, obesity is almost always associated with toxicity. When we lose weight, we reduce our body fat and thereby our toxic load. However, during weight loss we also release more toxins and need to protect ourselves from nutrient depletion through extra supplementation, including taking additional antioxidants to balance these toxins. Exercise will also promote the loss of excess pounds and help further detoxification" [52].

Via exercise, toxins were lost through sweat - explaining why exercise and saunas are helpful in detoxification. The fact that toxins are stored in fat is a well-known fact in the scientific community. Perhaps this all played into the yo-yo weight loss/gain so many women and men now complained about.

Personally, I knew that I have never seem been able to keep off those extra pounds that had resulted from my pregnancies - in spite of literally spending hundreds and hundreds of hours on a treadmill over the years. Like many people, I feel I have about an extra 20 pounds or so I just never seem to be able to keep off. No matter how much time I spend on the treadmill, it

seems that within a month or two of stopping the treadmill, the weight is all back on... even though I still go for walks, and try to be more careful about what I eat, etc. Why?

Could this be due to the fact that although I have burned all those fat calories via exercise, I have not flushed the toxins themselves from my body? I now suspect this may indeed be the case and the answer to why obesity and diabetes are so closely associated.

How many toxins can truly be excreted if the body has no good mechanisms for flushing excess iron [31], for flushing mercury - a substance that has a half-life of 20+ years in the human body [53], for flushing aluminum - a substance that is known to increase cell membrane permeability and interact with iron. I quote:

"Another peer-reviewed study demonstrated that aluminum levels in mouse brain increase following administration of aluminum adjuvanted vaccines (Redhead, Quinlan, et al, 1992). Moreover, the paper cites increasing evidence that aluminum ions can contribute to increased permeability of the blood brain barrier, acting synergistically with iron ions3. " [54].

Aluminum is also known to quickly find its way into cells within the human body – within hours - [55].

Note that increasing permeability of cells would not only facilitate toxins finding their way into the cells, it could also allow needed proteins out – most likely seriously impacting internal workings of each cell!

With the burning of fat, if toxins are indeed stored in fat in the human body, all those toxins are released into the bloodstream via exercise and the burning of fat, but are not necessarily flushed from the body due to the body's very limited ability to deal with or flush toxic metals such as iron, aluminum and mercury.

Thus, would it not stand to reason that once all these toxins enter the bloodstream due to the burning of fat, the body would start to produce more fat, to once again store those toxins – now in the bloodstream - and keep them away from critical organs?

Keep in mind also... the brain is very much a "fat type organ" – especially given myelin – the substance that coats neurons and allows communication among neurons – is composed proteins packed between two layers of lipids [56]. Lipids include any of a group of organic compounds that includes fats, oils, waxes, sterols, and triglycerides [57].

It is certainly known that toxins such as metals accumulate in this "fatty organ" - the brain [42, 58]! Why should this surprise us given the body stores toxins in fat!

Also, cholesterol is a fat and is closely tied to heart attacks/strokes. Thus, again, could that be because the body stores toxins in fat and the fact that there is an accumulation of cholesterol may be an indication of toxicity in the heart given it is known that toxins such as metals accumulate in all major organs [44].

And, not surprisingly, insulin has recently been found to help patients who suffer from heart attacks/strokes. I quote:

"This is a hormone that is known to lower blood sugar, but nobody knew it had this amazing anti-inflammatory activity…Proof of that ability comes from a study whose results appear in the Feb. 24 [2004] issue of Circulation…We actually succeeded in demonstrating that damage to the heart muscle is markedly reduced by giving insulin in the hours after a heart attack... Insulin has several beneficial effects, Dandona says. One is to block the production of plasminogen activator inhibitor, a molecule that lessens the effect of clot-dissolving drugs. Another is to reduce the damage caused by free radicals, molecules that attack the heart muscle [59]."

Note that it is absolutely known that iron causes "free radicals" to form and that iron also very much accumulates in the heart - indeed - in all major organs!
So, again, we must ask a question:

Will controlling obesity really prevent diabetes, heart disease and kidney failure as organizations such as the International Diabetes Foundation would suggest or is diabetes the sign of metal toxicity - metal toxicity making it necessary for the body to produce fat in order to store toxins away from critical organs because the body has no good mechanisms for riding itself of toxins such as metals like aluminum, mercury and iron?

Are we seeing an explosion in diabetes and obesity because people are simply lazier or may it play more into the fact that we are all more metal toxic and that insulin may play a critical role in metal detoxification?

As such, excess insulin production would be part of the answer - "the effect" - and not the underlying cause of issues with insulin which are now so closely tied to so many disorders – disorders that all too often appear to be very rooted in metal toxicity [42, 58, 60]!

This quote... certainly makes me believe that this may indeed be the case ...

"Insulin is known to cause a rapid and marked stimulation of iron uptake by fat cells, redistributing transferrin receptors from an intracellular membrane compartment to the cell surface (45)" [20, 45].

The fact that there is a RAPID uptake of iron by FAT cells and the fact that TOXINS ARE STORED IN FAT has now made me very suspicious that insulin may play a critical role in metal detoxification!

And could gender differences in terms of fat metabolism not play into this also? I quote:

"Insulin is the main hormone that promotes glucose transport into muscle cells to be used as energy, and it is a potent inhibitor of HSL... HSL is located directly in the fat cell and is stimulated by the hormone epinephrine. When HSL is stimulated, it acts to break apart TG in the adipose tissue and release three FFA and glycerol into the blood stream" [47].

HSL refers to hormone sensitive lipase [47]. It plays a critical role in the burning of fat [40].

Now why would insulin work in inhibiting the action of HSL and be considered a potent inhibitor of something that is supposed to help us in the burning of fat? [47] This means that in effect, insulin would in some way inhibit the burning of fat? True, insulin is tied to the

formation of fat. Yet, obesity is supposed to "cause" or "contribute" to diabetes? Something did not seem right here!

Could this potent inhibition of HSL by insulin have something to do with the fact that this may be a way to prevent the breakdown of fats which would in turn release toxins into the bloodstream? Very interesting questions indeed!

Could gender differences in fat metabolism, as they relate to estrogen and testosterone not also play into the fact that more boys than girls are impacted by disorders such as autism given testosterone and estrogen appear to impact insulin and fat production differently in males and females [47] and given the fact that serum iron levels are also impacted by estrogen and testosterone, with testosterone reducing serum iron measurements and estrogen – and oral contraceptives - increasing them [61].

Of course, estrogen and testosterone also pose other "gender issues" when it comes to metal toxicity and perhaps explain the 4:1 ratio of boys to girls impacted by disorders such as austism, as testified to by metals expert, Boyd Haley. I quote:

"Studies on the toxicity of mercury to mammalian neurons in culture demonstrate that low nanomolar levels can have lethal effects. Experiments using this system have also demonstrated, in agreement with published literature, that many antibiotics, other heavy metals and chemicals increase the toxicity of mercury and thimerosal (ethyl mercury). Additionally, in this same system the female hormone estrogen decreases thimerosal's toxic effects. In contrast, the male hormone testosterone greatly increases the toxicity. This may explain the 4 to 1 ratio of boys to girls that become autistic and the observation that boys represent the vast majority of the severe cases of autism" [62, emphasis added].

So, I now know that fat is tied to toxicity and that insulin is tied to fat production and that fat production is impacted by estrogen and testosterone. All this was absolutely interrelated. But, there are other reasons for which I now believe insulin may play a critical role in metal detoxification.

For example, iron that went to the production of blood is recycled by the liver and stored in the liver, spleen and bone marrow [63]. It did not appear to be stored in fat!

And so, again, if insulin is causing a rapid uptake of iron by fat cells and we store toxins in fat, is this an indication to us of how toxic iron really is – as, in my opinion, is the fact that the body only absorbs 1 mg or iron per day via the intestines. Perhaps this should be an indication to us that the body really does not need that much iron – a metal that is supposed to be a trace mineral in the human body! That extra 20 grams or so of iron that women receive over the course of pregnancy from basically prenatal vitamins alone certainly no longer made iron a trace element in many a woman's body – even though a serious misunderstanding of "anemia" in the medical community may make it appear as though women are low on iron when in fact – they may be very iron loaded!

So, again, are women being poisoned via prenatal vitamins? Is this what leads to the development of gestational diabetes… something that then sets you up for Type 2 diabetes which in turn then sets you up for a greater risk for Alzheimer's?

Interestingly, studies are now starting to show that in Alzheimer's beta amyloid might be playing a PROTECTIVE role, protecting the brain from oxidative stress due to iron [64, 65].

Note that amyloid plaques were also found in the pancreas of persons with Type 2 diabetes [66].

Could amyloid actually play a protective role, protecting against oxidative stress? How very interesting indeed – especially given it is known that secretin, a precursor to insulin – something known to impact insulin – something currently being looked at for the treatment of autism and schizophrenia by Repligen Corporation – is found in the very parts of the brain that are most impacted in autism, Alzheimer's and schizophrenia – the cerebellum, the hippocampus and the amygdale! I quote:

"Additionally, recent studies have shown secretin to be present in the amygdala, hippocampus and cerebellum—three areas of the brain that are known to be defective in autism." [67]

These areas are absolutely impacted in schizophrenia and Alzheimer's also.

Could secretin – a precursor to insulin - be doing something to activate specific pools of insulin in these areas of the brain in order to try to protect the brain from metal toxicity? Note that these areas of the brain, based on their functions, would certainly appear to be impacted most by environmental factors than genetics. The cerebellum is involved in the coordination of motor functions, speech and perhaps higher thought processes and emotions as well. The hippocampus is tied to the formation of new memories. The amygdale is tied to emotions. Again, these are functions that are certainly very much impacted by environmental factors [4, 5,6, 7, 8, 9, 36].

Note that according to the article entitled Cross-Talk Between Iron Metabolism And Diabetes, iron, when found in the pancreas, accumulated exclusively in the beta cells of the pancreas. I quote:

"In fact, iron deposition in islets, albeit variable, is restricted to b-cells" [20, 68]. Note that b-cells, also known as beta cells are the very cells responsible for the production of insulin. I suspect the liver and pancreas may both play roles in metal detoxification – perhaps explaining their seemingly greater affinity for things like iron.

Also, keeping in mind that iron and insulin modulate one another, studies also indicate that giving blood helps to regulate insulin and glucose levels [20].
Also interesting are a few other positives that came with giving blood. I quote (note references within quote are references used in the article I am citing here – my reference 20):

"Frequent blood donations, leading to decreased iron stores, have been demonstrated to reduce postprandial hyperinsulinemia in healthy volunteers (11), to improve insulin sensitivity (12), and to constitute a protective factor for the development of Type 2 diabetes (13). Phlebotomy was followed by decreases in serum glucose, cholesterol, triglycerides and apoprotein B (14), and by improvement in both ß-cell secretion and peripheral insulin action in patients with Type 2 diabetes (15). A significant impact of tissue iron excess on systemic effects of diabetes is suggested by recent reports in which iron appears to influence the development of diabetic nephropathy and vascular dysfunction. In this sense, intravenous administration of

deferoxamine resulted in improved coronary artery responses to cold stress testing in type 2 diabetic subjects (16) and in amelioration of endothelial dysfunction in subjects with coronary heart disease (17).

All these observations suggest that iron is more intimately linked to human pathophysiology than previously thought. In fact, iron metabolism is closely associated with the clinical presentation of numerous systemic diseases (18). Tissue iron excess contributes to produce and amplify the injury caused by free radicals as well as to modulate various steps involved in the inflammatory lesion [20, emphasis added].

Note the many benefits of flushing excess iron listed in the above quote. In giving blood, a person would be flushing excess iron... and as such, this certainly makes sense given the fact that iron and insulin modulate one another and given the body stores toxins in fat! Note also the statement on inflammation and free radicals – both problems in heart attacks - both things very much tied to iron overload – both things helped by insulin, as previously indicated.

It is also important to realize that beta amyloid is considered a metalloprotein. This has implications for the formation of free radicals from things like copper and iron. I quote:

"Among the brain abnormalities found in Alzheimer's disease is a buildup of the protein called beta amyloid. Recent studies have shown that beta amyloid is a metalloprotein, housing atoms of zinc, copper and iron deep within its folds. Researchers speculate that those bits of metal might be the key to the damage of Alzheimer's disease—and perhaps to its treatment.

Copper, zinc and iron can all react with oxygen. Oxygen is a critical component in our body's production of energy, but that energy is generated with a price. The byproducts of energy production, called free radicals, are toxic, damaging DNA and proteins. Copper can promote the production of these free radicals, while zinc has antioxidant properties, protecting against free radical damage. And free radical damage appears to be a significant component of Alzheimer's disease and the formation of amyloid plaques…new metal-binding drugs effectively "melted" the amyloid plaques in living mice in as little as nine weeks, and are now in clinical trials with Alzheimer's patients" [69].

Thus, certainly, at least from this research scientists are seeing that metals very much appear to play a role in Alzheimer's disease and that the removal of metals leads to the "melting away" of plaques. Note that chelation – a process for pulling metals out of the body - should not be undertaken in persons with dental amalgam (mercury fillings known as "silver fillings" by the general public) because that could pull mercury out of the teeth and potentially lodge it in vital organs – leading to potentially more damage [60].

But there are other things that have now convinced me that metals very much play into mental illness – metals like iron, mercury and aluminum.

Indeed, as with so many things… there is always two sides to the coin.

For example, when it came to iron, Alzheimer's and autism, we have some scientists saying that Alzheimer's and autism may be caused by a lack of iron [70, 71] and others, saying Alzheimer's and autism could result from too much iron [64, 168]. So, again, which is it? Given

everything I had now read on the issue of iron, personally, I suspect the issue is one of too much iron – NOT too little!

It was interesting to note that even within one of these articles on "lack of iron being the problem" that the following comment is made – I quote:

"Dr. David Bennett, director of the Rush Alzheimer's Disease Center in Chicago, says he's not aware of any population studies linking low iron to dementia. But other researchers have found a link between high iron levels in the brain and Alzheimer's, he says" [70].

Well… I suspect – in the end - both camps might be right.

The answer to issues of iron may reside in the fact that there are "different types or forms" of iron and that iron that goes to blood (or heme) appears to be stored in the spleen, thymus, liver and bone marrow whereas iron that goes to storage may be getting stored in fat or other critical organs where it is able to cause tremendous damage!

Let us remember the words of Roberta Crawford, President of the Iron Overload Diseases Association during her presentation to the NIH, a presentation entitled "A New Perspective On Iron Deficiency" – I quote:

"A prevailing myth [emphasis added] says that iron deficiency is the world's greatest nutritional problem.

Let's define anemia: a deficiency of red cells or hemoglobin, or red cells that die too young or are discolored or possess an abnormal shape, or red cells that lack adequate iron….

So how much iron does the human body really need? Iron is not excreted. The iron you absorb stays and accumulates in storage except that you can lose one milligram a day through hair, finger nails, skin cells and other detritus. That is the amount needed every day to replace the loss. One milligram. (Women in reproductive years, one and a half milligram)…

Hemoglobin is not iron! Unfortunately physicians prescribe iron to anemic people who test with low hemoglobin. Yes, the patients are anemic, but the iron is collecting in storage instead of going into hemoglobin. These people are iron-loaded. They need iron removed despite the anemia. The anemia should be treated with B vitamins, especially B12, B6 and folic acid. Many patients with anemia are dying of iron overload, and some are hastened to their death by their physicians who give iron…

Iron is in just about everything. If you are not absorbing the one daily milligram, you are truly on a starvation diet, and low iron is the least of your worries." [emphasis added] [27].

Thus, I think perhaps the "iron deficiency" issue may really boil down to a very serious lack of understanding in the medical and research community in matters of "iron deficiency", "anemia", "iron overload" and "iron storage". Until the scientific and medical communities understand these issues, I fear many more will be "Fortified, Drugged and/or Annihilated" courtesy of the Failing In Duties Administration or FDA – the agency that itself admits 600

mg of iron is a lethal dose to small children [49] – the same agency that allows prenatal vitamins – loaded with iron - to be unregulated [49] in spite of clearly very toxic doses of iron contained in these vitamins – doses of iron that may now be responsible for the tremendous explosion in diabetes in both children and adults, the tremendous explosion in mental illness and indeed, in the many, many miscarriages so many women now seem to suffer!

Of course, why should this surprise us given this is the same agency that allows vaccines containing mercury – one of the most toxic substances known to man - to be approved with no study on the safety of mercury in vaccines for over 80 years [35], the same agency that approves vaccines based on 30 day studies [72] (some shorter, i.e., longest MMR study was 3 weeks long [73]), the same agency that continues to allow mercury in vaccines in spite of knowing how toxic it truly is [74], the same agency that considers aluminum "GRAS" or Generally Regarded As Safe and completely fails to regulate aluminum as it relates to the amount or use of aluminum in spite of the fact that it has never been tested by the FDA on its safety [75] – aluminum – known neurotoxic [76] that has been shown to inhibit growth and nutrient uptake [76], to increase the permeability of the blood brain barrier [54] and perhaps of cells membranes overall [55], to cause heme deficienty [70] and to bind to lactoferrin [55].

Thus, given this "track record", why should we be surprised by the fact that studies on iron supplementation in pregnancy are "virtually non-existent" [34].

Is a lack of understanding as it relates to "iron overload" and/or "iron deficiency" one of the factors contributing to all the confusion when it comes to the role of metals such as iron in mental illnesses such as autism, Alzheimer's, etc? It certainly appears that this is indeed the case.

Persons uninformed as far as "anemia" or "iron deficiency" issues could easily mistake "iron deficiency" as the problem when in fact the problem is not too little iron but TOO MUCH - as clearly indicated in the article by Roberta Crawford entitled A New Perspective On Iron Deficiency - showing that what some mistake for "iron deficiency" may actually be a sign of iron overload with iron going to storage instead of blood production [27].

So, in that sense, yes, there may be too little iron in that it is not going to blood production – and hence – this could certainly lead to "heme deficiency" - but that does not equate to the fact that there is too little iron in the body overall!

Could it be that indeed, in these disorders there did exist "heme deficiency" and "iron overload" - both - at once? As I looked deeper into these issues, it very much appeared that this might indeed be the case.

Let us expand on this issue a little further...

In Alzheimer's and autism, clearly it was known that these persons were very low in vitamin B6!

Indeed, the Kirkman Labs supplement called SuperNuThera, a product I had once given to my son, used to contain a whopping 25,000% RDA for B6. This had been true until the Spring of 2002, at which time the recommended dose amount was halved - as clearly indicated in the company's product guides before and after Spring 2002 [77]. A copy of this supplement's

components was provided in my first book - posted in full on this website - in Chapter 11 - the chapter on supplements [78].

Note that excessive doses of B6 are associated with peripheral nerve damage [79].

B6 has several critical functions that play into all this.

B6 is involved in:

1. The production of blood – I quote:

"Vitamin B6 is a water-soluble vitamin that exists in three major chemical forms: pyridoxine, pyridoxal, and pyridoxamine (1, 2). It performs a wide variety of functions in your body and is essential for your good health. For example, vitamin B6 is needed for more than 100 enzymes involved in protein metabolism. It is also essential for red blood cell metabolism. The nervous and immune systems need vitamin B6 to function efficiently, (3-6) and it is also needed for the conversion of tryptophan (an amino acid) to niacin (a vitamin) (1, 7). Hemoglobin within red blood cells carries oxygen to tissues. Your body needs vitamin B6 to make hemoglobin. Vitamin B6 also helps increase the amount of oxygen carried by hemoglobin. A vitamin B6 deficiency can result in a form of anemia (1) that is similar to iron deficiency anemia" [80].

2. The excretion of iron – I quote:

"Vitamin B6 promotes iron excretion and this has been used as a rationale for treatment in iron storage diseases" [81].

3. The prevention of seizures – I quote:

"The only vitamin deficiency known to cause or worsen seizures is a deficiency of vitamin B6 (pyridoxine)" [82].

4. The production of insulin – I quote:

""Diabetes seems to produce a deficiency in vitamin B6. This vitamin, which plays an important role in food metabolism as well as DNA and RNA synthesis, also helps with insulin production" [83].

5. Improving glucose tolerance – I quote:

"Gestational diabetes is another condition in which vitamin B6 therapy has been reported to be of value. Physicians from the Netherlands studied the effect of 100 g of pyridoxine supplementation on 14 women with gestational diabetes. After two weeks of supplementation and dieting, all 14 women had improved glucose tolerance and 12 of the 14 no longer had gestational diabetes" [84].

6. Proper functioning of the nervous system – I quote:

"Vitamin B6 is needed for the synthesis of neurotransmitters such as serotonin and dopamine (1). These neurotransmitters are required for normal nerve cell communication. Researchers have been investigating the relationship between vitamin B6 status and a wide variety of neurologic conditions such as seizures, chronic pain, depression, headache, and Parkinson's disease (18)" [80].

Note that serotonin is a hormone that plays a role in the regulation of sleep patterns [85]. Elevated dopamine levels are closely linked to schizophrenia [86].

7. The production of bile – I quote:

"The liver forms its bile pigments from hemoglobin" [87].

Thus, if you need B6 to form hemoglobin, you need B6, indirectly, to form bile also!

8. Possibly – a role in the elimination of copper - I quote:

"Vitamin B6 (pyridoxine or pyridoxal-5-phosphate). This is another copper antagonist that may be helpful during a copper elimination" [88].

9. The production of epinephrine - also known as adrenaline - a muscle stimulant used by the body to deal with stress – I quote:

"Vitamin B-6 (Pyridoxine) plays a role as cofactor in most enzymes that support amino acid metabolism. It controls the absorption, metabolism and conversion of amino acids into neurotransmitters, antibodies, digestive enzymes, muscles and tissues in the body. Vitamin B-6 is a coenzyme for several enzyme systems. It is vital in the metabolism of amino acids in the intestines. It allows the amino acids to be synthesized, broken down and absorbed. The forming of histamine, serotonin, dopamine and adrenaline are dependent on Vitamin B-6 (Pyridoxine). The liver requires a lot of vitamin B-6 (Pyridoxine) to function. The total dopamine content in the brain is formed by Vitamin B-6. Vitamin B-6 (Pyridoxine) breaks down in the body to pyridoxic acid, which is excreted in the urine. This acid tends to remove calcium oxalate gravel in the urinary tract." [89]

10. The prevention of heart attacks and regulation of homocysteine levels – I quote:

"Vitamin B6 (pyridoxine) is involved in more bodily functions than almost any other single nutrient. It affects both physical and mental health, and is necessary for the production of hydrochloric acid and the absorption of fats and protein. Pyridoxine also aids in maintaining sodium and potassium balance and promotes red blood cell formation. It is required by the nervous system for normal brain function, for the synthesis of RNA and DNA, which contain the genetic instructions for the reproduction of all cells and for normal cellular growth. It activates many enzymes and aids in the absorption of vitamin B12, in immune system function, and in antibody production… It is estimated that individuals with low vitamin B6 levels have a five times greater risk of suffering a heart attack than individuals with higher B6 levels." [90] and

"A deficiency of vitamin B6, folic acid, or vitamin B12 may increase your level of homocysteine, an amino acid normally found in your blood (28). There is evidence that an elevated homocysteine level is an independent risk factor for heart disease and stroke (29-37)" [80].

11. A role in immune system functions [80], the activation of enzymes [90], the release of glucose stored in muscles [91], and many other functions in the human body [91, 92].

There is simply no denying the role of not only B6 in seizures, but the role of seizures in these disorders as well. With the tremendous gray matter loss associated with schizophrenia and the fact that in both autism and Alzheimer's we often see the development of seizures, one simply can not deny that things like "thought insertion", "reality distortions", "sensory perception alterations", "hearing voices", etc. may all be the result of something known as "the aura continua" or "ongoing epilepsy". For more on that issue, please go to the following on Epilepsy in Schizophrenia and The Aura Continua. Clearly, the "aura continua"[190] and gray matter loss [191] very much appear to be more HUGE pieces to this puzzle! I quote:

"Aura continua is an intriguing condition of epileptic nature. The reason long-lasting seizure discharges remain restricted to a circumscribed area of the brain is not completely understood. However, new insights emerge from animal models of epilepsy and, in particular, from studies of network disturbances seen in cortical dysgenesis. Aura continua has been observed with a variety of clinical signs and symptoms that depend on the localization of the epileptic discharge and reflect the functional organization of the brain. In this clinical summary, Heinz-Gregor Wieser, MD, of the Universitatssipital in Zurich, Switzerland, reviews the most fascinating phenomena described within the context of aura continua. These phenomena include ictal psychic phenomena with perceptual hallucinations, mnemonic, emotional, and other rare misperceptions, such as depersonalization, distortion of body image, and heautoscopy..."[190] [end of quote, Heinz Gregor Wieser, Aura Continua, http://www.epilepsy.org/ctf/aura_continua.html].

Other things experienced by persons with "aura continua" or "ongoing epilepsy" included things like... again I quote:

"Perceptual hallucinations - Visual - Auditory - Olfactory - Gustatory • Mnemonic - Deja vu - Jamais vu - Memory recall - Memory gaps/amnesia - Emotional - Fear - Sadness - Pleasure - Sexual emotion - Emotional distress - Anger - Change in reality - Depersonalization - Feeling of other presence - heautoscopy - Forced thinking - Distortion of body image..."[190] [end of quote, Heinz Gregor Wieser, Aura Continua, http://www.epilepsy.org/ctf/aura_continua.html].

"Forced thinking" certainly sounds like "thought insertion"... another thing that is so commonly seen in schizophrenia.

Note the following quote as it relates to an article on gray matter loss in schizophrenia - I quote:

"Since losses in the rear areas are thought to be caused by environmental factors, the findings are consistent with the notion that activation of some non-genetic trigger contributes to the onset and initial progression of the illness, suggest the researchers." [192]

In my opinion, it is critical to note something else – and I quote:

"A deficiency of vitamin B6 can result in anemia that is similar to iron deficiency anemia" [80].

If a B6 deficiency can result in an "anemia" that is "similar" to "iron deficiency", could doctors be mistaking "anemia" for "iron deficiency" instead "B6 deficiency" - perhaps the true underlying problem! Also note:

"Birth Control Pills are well known B6 antagonists - 15-20% of women on oral contraceptives show deficient levels of pyridoxine on tryptophan load tests and many suffer deficiency symptoms" [93].

It is also important to note that more than half of B6 is lost during modern milling processes [94] – some say as much as 80-90% of it may be lost when grains are processed – I quote:

"Up to 70% of B6 is lost in freezing and processing foods, including luncheon meats, with as much as 90% lost in the milling of cereal grains" [95].

Whether 50% or 90% is lost via milling, or somewhere in between, clearly there is evidence that most of the vitamin disappears with modern food processing practices – a vitamin so critical to so many functions in the human body. Luckily, we still have bananas – organic would of course be best – perhaps explaining why so many parents of children with autism report their children can become quite hyperactive after eating bananas! Perhaps it is because the body is quickly using the B6 it so very much needs!

Modern food processing also depletes other minerals that are critical in preventing insulin resistance - chromium and vanadium. I quote:

"Chromium is used by the body to make glucose tolerance factor which is secreted with insulin to control blood sugar levels. 400 to 600 micrograms (mcg) per day used to treat impaired glucose tolerance and for weight loss... Shortage of chromium is a factor in arteriosclerosis, acne and diabetes. (20, 27) It appears that chromium stimulates the production of insulin by the body. All diabetics have a shortage of chromium and zinc"[92, emphasis added].

Note that minerals are often trace elements. As such, your body does not need that much - an issue to keep in mind for those considering supplementation because "too much" may be an issue too – check with your doctor if you are considering supplementation. For more on supplements that may be helpful to diabetics, see [96].

Modern food processing destroys many key vitamins and minerals that are needed in order to break down foods and store energy (i.e., glucose) properly. If these vitamins and minerals are no longer in the foods due to processing practices, then the body can quickly deplete its stores and as such, each time you eat a specific food (i.e., unprocessed wheat has chromium but once processed, most of the chromium disappears and hence one of the reasons so many may have problems with carbohydrates, etc.), you would only make matters worse as more and more of your body's stores are utilized.

Note also that B6 is stored primarily in the muscles. It is estimated that 80% - 90% of the body's stores for vitamin B6 are found in the muscles [84].

Again, also keep in mind that B6 is used in the production of adrenaline or epinephrine – a muscle stimulant – a hormone also used by the body to deal with stress. Thus, if the body's primary stores of B6 are in the muscles, it would make perfect sense that the body would need to activate those muscles in order to perhaps release the B6 stores – perhaps explaining why we see hyperactivity in autism, schizophrenia, Alzheimer's and so many other disorders – and perhaps also explaining why diet and exercise alone appear to help keep diabetes in check!

So, is exercise important? Absolutely! If B6 is stored primarily in the muscles and it is involved in many, many critical functions that are clearly impacted in these disorders, yes, absolutely, exercise is important. It also provides another means of flushing toxins – via sweat.

But, there may be another reason why exercise is key.

In Alzheimer's, clearly the hippocampus is impacted. There are certainly some who think that stress may impact the size of the hippocampus [97, 98]. Note that adrenalin (also known as epinephrine) is a hormone used by the body to deal with stress and that B6 is tied to the production of adrenalin or epinephrine [89]!

Thus, again, if B6 is tied to the production of adrenalin, it certainly would make sense that one would have to "release B6" in order to help with the production of adrenalin to then help with the reduction of stress. Luckily, studies appear to also indicate the shrinking of the hippocampus may be "reversible" [98]. Of course, as this article also states, there are always two ways of looking at the coin… perhaps those with a smaller hippocampus are more likely to have post-traumatic stress in the first place. So, again, which came first – the stress or the small hippocampus?

My "gut feeling" – as unscientific as that is – tells me that the stress came first and somehow reduces the hippocampus. The reason I state this is because those who experience a great deal of stress often seem not to remember the events of something very traumatic (i.e., a car accident, etc.).

Thus, if the hippocampus is tied to the formation of new memories – as it clearly is [8] – if those new memories are traumatic, would it not make sense to make less use of the hippocampus – in effect, not "burning a painful memory" into the brain?

So, again, if B6 is tied to stress reduction mechanisms and 80-90% of B6 is stored in the muscles, it would make sense that activating those muscles would help alleviate stress and perhaps even reverse damage to the hippocampus.

The rest, 5% - 10% of B6 appears to be stored primarily in the liver [84].

Children with autism are known to be very deficient in B6. Do these children with autism crave grains because they provide "some" B6 – even if in very limited amounts due to processing issues? Do they crave milk because it provides calcium (known to inhibit iron absorption)? Do they experience a hallucinogen effect because of the stress involved in these disorders? Certainly, a "numbing" of sorts as would be provided via a natural opiate effect

could affect one's memory of painful and/or traumatic events. Again, more interesting questions.

Note that B6 is also tied to approximately 100 enzymes functions [91] and that enzyme dysfunction as it relates to casein and/or gluten breakdown also very much appear to be a problem area not only for children with autism [99] but for persons with schizophrenia [100, 101] and dementia [102] as well.

Note that in addition to destroying B6 via milling processes, modern food manufacturing processes also add iron - a very toxic substance - to many cereals, etc. – thus providing what very much appears to be a "double-whammy"!

Note that B6, like most vitamins, cannot be synthesized by the human body and as such, it must come from dietary sources [103]. Thus, if a person is low in B6 and it plays a role in so many critical functions, one can see how that could become a serious issue.

The fact that B6 is involved in the production of blood, in my opinion, is a critical issue - especially given the fact that research indicates damage in Alzheimer's appears to very much parallel the type of damage seen in heme deficiency.

Heme is a part of the hemoglobin or blood. Common reasons for heme deficiency include iron and vitamin B6 deficiency as well as exposure to toxins such as aluminum [70].

Given how much iron we now find in modern diets and the fact that prenatal vitamins are loaded with iron, and given the body's intestines only absorb 1 mg of iron per day, it seems that "lack of iron" would not be an issue. Granted one could be suffering from "iron overload" and yet have heme deficiency due to the fact that iron may be going to storage instead of blood production.

The issue of B6 deficiency as it relates to blood production is certainly an interesting one. Undoubtedly, a person can live without having optimal volumes of blood in the body. The fact that a person can donate blood or lose a tremendous amount of blood and still be alive is testimony to that fact. However, what would be the long-term implications of possibly having inadequate blood volumes for extended periods of time?

Doctors certainly do not check "blood volume" as a general area of concern in these disorders. It just seems to be assumed that the volume of blood is fine. But is it, truly? Again, according to Roberta Crawford, President of the Iron Overload Disorders Association, "iron deficiency" or "anemia" should be treated with B6, B12 and folic acid [27] – not iron!

For those who may have "iron deficiency" due to a true lack of iron (again, according to Roberta Crawford's presentation – that appears to be very unlikely given iron is "in just about everything"), vitamin C is known to greatly enhance iron absorption and as such, perhaps this should be an option up for discussion with physicians before supplementing with iron – something that can be very, very toxic and something the body can not easily rid itself of.

The fact that iron and insulin modulate one another truly makes this a critical issue given insulin problems are now associated with so many disorders.

In diabetes, it is a well-known fact that blood flow to the extremities is often lost, resulting in gangrene and/or the need to amputate fingers/toes/limbs. But what caused the lack of blood flow to the extremities or the cell death in these parts of the body?

It is generally believed that high glucose increases osmotic pressure of your blood, that this draws water from your tissues, causing them to be dehydrated [46] and that loss of water due to frequent urination then makes the blood thicker, leading to poor circulation [46].

Note that water is known to absorb many metals/minerals. Is this why the body "draws it" from the cells – perhaps having water act as a natural chelator to rid the body of these toxins?

Also, excess sugar (glucose) in the blood alone can make it "thicker". So, is it really the loss of water that is making the blood stop flowing? If a person is always thirsty, chances are that person would be drinking to replenish lost water. Is excessive thirst in diabetes a way for the body to force water intake to then use that water in chelating the body? Of course, in areas where the water is high in iron, water intake in and of itself could become part of the problem, in my opinion. Again, these are all very interesting issues.

Granted, most persons probably do not drink enough water to start with. But, likewise, it could be argued that people also take in much more iron than their bodies can handle each day… and given iron and insulin modulate each other, could that not be the ultimate, underlying issue here that is leading to issues with circulation.

In addition, if one is low in B6, and B6 is critical to blood production, iron excretion, enzymatic processes, neural functioning, the production of insulin and on and on and on, certainly, blood production or proper blood volume, in and of itself would be an issue if there is only so much B6 to go around in a B6 deficient person.

Thus, as far as the "poor circulation" being due to the thickening of the blood due to loss of water - yes - that could be true. However, perhaps the poor circulation is due to lack of blood in the first place due to B6 deficiency.

Although B6 is almost completely removed from grains via milling processes, luckily, there are plenty of fruits, vegetables, and other food products that are considered good sources of vitamin B6. These include bananas, avocados, wheat germ, sweet potatoes, brown rice flour, peanut butter, sesame seeds, chickpeas, dried sunflower seed kernels, cabbage, baked potatoes, millet, chestnuts, hazelnuts, watermelon, walnuts, etc. [104].

Of course, with the food pyramid emphasizing grains and breads over fruits and vegetables, is it any wonder we have so many problems with diabetes, obesity, mental illness and so on. Could this again be the result of more incompetence at the FDA? And who exactly did generate that "food pyramid" anyway? I, for one, would love to see the data that justified more grains/breads than fruits and vegetables! Note that carbohydrates are processed like sugars – only adding to glucose issues and potentially "thicker blood".

Yet, how can we know if thick blood is the problem unless we know the amount of blood or whether or not there was proper blood volume in the first place both well prior to and at the onset of diabetes? Let us keep in mind that a person can be diabetic for a long time before realizing it.

So, do we become diabetic because we are obese or obese because of metal toxicity and then diagnosed as diabetic because insulin might play a role in metal detoxification?

It is certainly known that diabetes can cause B6 deficiency [105]. But, again, I think we must ask, which came first? Does the diabetes cause B6 deficiency or does B6 deficiency lead to diabetes?

How is it that gestational diabetes "disappeared" in 12 of 14 women with gestational diabetes after supplementation with B6 [84]!

Perhaps these women were on different doses of iron from prenatal vitamins or had a varied dietary iron intake that would explain why all women were not "cured" of the "gestational diabetes" – but the fact remains, many women no longer had "gestational diabetes" after B6 supplementation [84]!

Thus, again, is the issue of diabetes as it relates to "poor circulation" really one of "diabetes" and excessive water loss or could it be one of issues with "poor blood production" in the first place due to B6 deficiency?

If indeed there are issues with blood production to start with, that could explain issues with "poor circulation". One can certainly live without fingers/toes/limbs if there is not enough blood to go around.

The other reason I suspect that insulin may play a role in metal detoxification has to do with the fact that in spite of the fact that more insulin is being produced in Type 2 diabetes, for example, it is not going to reducing blood glucose levels. Why not? What is going on there?

I am a blood donor and donating blood is said to help in the regulation of insulin levels and is considered a protective factor for the development of diabetes [20] while high iron stores are tied to the development of Type 2 diabetes in women [21].

In donating blood, you would be flushing excess iron... and again... iron and insulin modulate one another [20] and as such, that would make sense.

UPDATE MARCH 2006

Note that in one article I found it was stated that women who gave birth to children with autism apparently reported more bleeding during pregnancy.[197] I quote:

"One of the most interesting findings which may relate to the causes of autism is that mothers who give birth to autistic children report having had an unusually high frequency of bleeding during pregnancy, compared with controls. In addition to being found in retrospective studies, the increased bleeding has also been found in a prospective study in which information was collected on a large group of mothers, and only later was the data analyzed on those who gave birth to autistic children".[197]

How very interesting again! Could it be that this was the body's way of flushing excess iron during pregnancy? END OF MARCH 2006 UPDATE

I have been a blood donor for years and I always enjoy reading the "blood trivia" and "blood facts" provided by the Red Cross. As I sat there during one of my more recent donations and re-read a "Blood Facts" sheet I had read so often in the past, something once again very much jumped out at me.

Having done so much research, I knew that I could read the same thing over and over again and still miss a critical piece to the puzzle in an article I had previously read, and so, it is not unusual for me to re-read the same thing many times. This time, however, I did not simply find a particular fact to be "just interesting", I had found one fact - a fact I had read so many times in the past - to perhaps be another critical piece to the puzzle.

On that little one page sheet, the following question is asked - I quote:

"What common chemical added to blood greatly increases its storage time without adversely affecting the quality?"

The answer: SUGAR! [106] Salt on the other hand, stops blood from clotting [106].

NOTE: GLUCOSE IS A SUGAR!

As such, if indeed there are issues with "blood production" (i.e., heme deficiency) in these disorders due to deficiencies in B6 for example, then would it not stand to reason that you would want to preserve the blood you do have for as long as possible?

Given glucose is a sugar, is this the body's way of preserving the blood it does have and hence one of the reason for which glucose levels are not lowered in spite of greater insulin production in Type 2 diabetes!

Again, all very interesting questions - especially in view of the fact that iron and insulin modulate each other, that high iron stores increase a person's risk of developing diabetes, that donating blood helps prevent diabetes, that B6 supplementation is beneficial to women with "gestational diabetes", that B6 is tied to blood production, that heme deficiency appears to possibly play a role in Alzheimer's, that diabetes greatly enhances a person's risk for Alzheimer's, that Alzheimer's is associated with excess iron in the brain, that B6 deficiency is so closely associated with autism, that B6 deficiency may be a problem in diabetes, that B6 is tied to the production of insulin and the excretion of iron, that insulin and obesity are so closely tied, that the body is known to store toxins in fat, and that - and I quote:

"Insulin is known to cause a rapid and marked stimulation of iron uptake by fat cells, redistributing transferrin receptors from an intracellular membrane compartment to the cell surface (45) [reference]" [20, 45]

It would certainly be interesting to see if the same is true for any other metals.

Mercury is known to impact the endocrine system [44] and aluminum is also very much associated with Alzheimer's [107, 108].

There could be no doubt that issues with B6 are now being tied to many, many disorders [109] as are metals such as mercury, aluminum and iron, as previously indicated.

If insulin causes a rapid uptake of iron by fat cells, could it also play a role in detoxifying the body of other metals by forcing them into fat cells given the body has no good mechanism for excreting these toxic substances? That again, is a very interesting question.

How was it that there was so much diabetes today – and so much mental illness!

This whole issue of sugar in the blood is especially interesting given all the recent developments in the field of glycobiology.

Glyconutrients are simple sugars and they are now believed to play a critical role in helping the body heal itself. One of these glyconutrients is - glucose! Thus, could excess levels of glucose in the blood also play a healing function?

Of course, there are 2 types of diabetes, type 1 and type 2.

In type 1 diabetes, which accounts for 5-10% of diabetes cases, the beta cells of the pancreas are destroyed and hence the body has little or no insulin being produced. In my opinion, the fact that iron - a toxin - accumulates exclusively in the beta cells of the pancreas when found in the pancreas [20, 68] - could certainly play into the destruction of those beta cells.

This article [20] seems to indicate that perhaps iron accumulates in the beta cells of the pancreas because ferritin exhibits antioxidant properties and beta cells are particularly sensitive to oxygen radicals [20].

But,

"The role of ferritin is in the process of being redefined from its long-held view as a static intracellular iron storage protein" [110].

So, ferritin usually has to do with "intracellular iron storage".

But, could beta cells in the pancreas not also play a role in metal detoxification? If indeed this is the case, could beta cells need to somehow "attract" those metals in order to "deal with them"?

Transferrin is the "iron mobilization protein" [110]. Transferrin is also known to bind to aluminum [55].

What is interesting, however, is – again – this quote on insulin:

"Insulin is known to cause a rapid and marked stimulation of iron uptake by fat cells, redistributing transferrin receptors from an intracellular membrane compartment to the cell surface (45) [reference]" [20, 45]

Note the last part of this quote having to do with the redistribution of transferrin receptors! Is insulin doing this in order to mobilize iron in fat cells? If that were the case, then it would not

appear that this iron would be going to blood production. And, again, keep in mind that toxins are stored in fat and as such, in my opinion, this critical quote may be telling us just how toxic iron really is – and just as importantly – this quote may indeed be proof that insulin plays a role in metal detoxification - and that, would mean that diabetes and the extra production of insulin could very well be the result of the body's attempt to deal with metal toxicity and that excess glucose in the blood is necessary in order to preserve the blood due to potential blood production issues.

Also, the fact is that insulin is normally supposed to stimulate cells in the body to grab passing glucose, resulting in a lower blood glucose level. In insulin resistance, however, that is not happening. The glucose is not being taken up by the cells. Could this be because the glucose is somehow needed to help repair the cell membrane itself. How does the last part of the statement regarding transferrin receptor redistribution fit into all this?

If insulin triggers glucose uptake by cells, then, that seems to imply that it has some effect on the permeability of that cell membrane. But, if iron and insulin modulate one another and there is too much iron in the body, perhaps the reason the glucose is not being taken up by cells as it should be is because this increase in the cell permeability may also cause other things to be allowed in... like iron.

One can not help but ask if this is the body's mechanism for keeping excess iron out of cells, perhaps storing it at the cell surface, until that excess iron can be stored in fat! Thus, again, as stated above, that would confirm the theory that - yes - diabetes and obesity are closely related, but that it certainly appears it is the "insulin resistance" that comes FIRST - then the obesity - or the need for the body to produce excess fat in order to store those toxins. Note that the pancreas is also involved in levels of fat in the body. Excess insulin is absolutely known to PREVENT the burning of fat! Why would that be? Perhaps because the body NEEDS that fat to store toxins - thereby, potentially - also explaining the diabetes-obesity link - but again, in my opinion, it very much appears the "insulin-resistance" comes first - THEN the obesity - just as studies now appear to be confirming [188]!

As such, it appears obesity is not "the cause of a greater risk of diabetes", but rather that things are "the other way around" - that diabetes or insulin resistance comes FIRST - THEN obesity! Indeed, it would make no sense that "obesity causes diabetes" if "more insulin" would only PREVENT the burning of fat! Note that in Type 2 diabetes, that is exactly what we see - more insulin being produced - and hence - less fat burning! It seems that the body would want to allow for the burning of that fat if indeed obesity was really the issue or cause of diabetes. But that is not what we see. Instead of the body being allowed to burn that excess fat... the body is producing more insulin - which then PREVENTS the burning of fat! I suspect that is due to the need for fat to store toxins that may otherwise damage the organs! That might indeed explain why insulin is known to cause a "rapid and marked uptake of iron by fat cells" and why those transferrin receptors are migrating to the cell surface [20, 45]!

Note also that recently, it was discovered that "brown fat cells" may hold keys to the treatment of obesity [194]. There are 2 types of fat cells we know of in the human body - white fat cells and brown fat cells. For some reason, by adulthood, we seem to lose most of the "brown fat cells" we have. Again... why would that be? If indeed brown fact cells "burn calories", that again, may play a critical role in all this. Are we left with white fat cells because these are the ones that hold toxins and the loss of those brown fat cells is another way the body prevents the

burning of fat that may hold toxins? After all, if you burn the fat which holds toxins, would you not be releasing them into the bloodstream given many toxins - such as metals like mercury, aluminum and iron - and possibly others - are not easily excreted by the body. This is certainly all very interesting indeed - especially when it comes to Type 2 diabetes - where the body is often clearly producing excess insulin - as opposed to type 1, where insulin is not being produced or produced in only very small amounts by the pancreas!

Type 1 diabetes (5 – 10% of diabetes cases [111]) is most associated with children and as such, is often referred to as "juvenile diabetes".

Again, keep in mind that iron and insulin modulate each other and that prenatal vitamins are loaded with iron - iron that preferentially finds its way to the unborn child [33] and can negatively affect the pancreas, liver and/or other key organs.

In Type 2 diabetes, which accounts for 90% - 95% of cases of diabetes, the body does not respond or is not using its insulin properly [so we think] in order to reduce glucose levels. This condition is known as "insulin resistance" and it is usually associated with a later onset of diabetes - occurring typically after the age of 40.

Note that as a person gets older, more and more iron and other metals such as mercury, which also impacts insulin, would also be accumulating in the body and disrupting insulin functions. And of course, in the case of women, higher iron stores resulting from prenatal vitamins would certainly play into the development of not only gestational diabetes, but diabetes and Alzheimer's later in life as well.

I suspect diabetes may only be an indicator of metal toxicity and that it is the metal toxicity that truly leads to Alzheimer's. As such, both diabetes and Alzheimer's may simply be "the effect" and that the underlying culprit is that of metal toxicity.

Again, in diabetes, there is excessive thirst and hunger, frequent urination, and high blood glucose levels. Because your cells are not absorbing the glucose from the blood, your body thinks it is "starving" and hence it causes another hormone to be released - glucagon. This hormone then acts on the muscles, kidneys and liver to cause the release of stored glucose into the bloodstream, only further elevating glucose levels. The increase urine flow is also believed to cause the body to lose sodium. This is believed to activate your thirst receptors. All this is also believed to lead to thicker blood as more water is lost via urination and hence, circulation is impacted and this is believed to be what leads to the problems with blood flow to the extremities, resulting in numbness in the hands and feet, changes in vision, slow wound healing, and frequent infections as the immune system is believed to be weakened also. Ultimately, this is believed to lead to gangrene, amputation and blindness as well as many, many other dysfunctions within the workings of the human body [46].

Well... as I read this, something else just does not seem to quite "add up".

Diabetes is very closely tied to obesity. Yet, persons with diabetes are supposed to suffer from excessive thirst, hunger and weight loss?

How can we state that controlling "obesity" helps prevent diabetes on the one hand and then state that in diabetes, there is excessive weight loss?

That certainly did not make much sense to me.

And hence, just one of the reasons for which I now believe that obesity does not "cause" diabetes but rather is the "effect" of diabetes and that the underlying issue is most likely metal toxicity. As such, perhaps we have it backwards… maybe obesity does not lead to diabetes… maybe diabetes is an attempt at dealing with metal toxicity and that then leads to obesity… after all, insulin is also known to stimulate the production of fat!

The question is, does fat stimulate the production of insulin? If so, would not all obese persons/children have excess insulin being produced?

Also, could "more glucose" being released via the action of glucagon (which releases stored glucose from the liver) not be due to the fact that the body needs this glyconutrient in greater amounts to help with healing the body?

In diabetes, it is believed that salt also leaves the body via the urine and that this may also trigger the excessive thirst seen in diabetes [46]. Well… why exactly is salt leaving the body? And why is there excessive urination in diabetes? Could it be due to something other than elevated glucose levels?

Again, water is a natural chelator that absorbs metals/minerals and as such, surely, it could help the body rid itself of toxins such as metals – perhaps playing a role in explaining excessive thirst in diabetes.

It is also known that salt concentration has an effect on the iron-binding properties of human transferrin [112].

Again, that is very interesting given that critical quote on the "redistribution of transferrin receptors" that occurs as insulin rapidly pushes iron into fat cells [20] and given we store toxins in fat [52].

As such, I cannot help but wonder if salt might somehow contribute to metal detoxification.

Note one of the definitions of a salt as taken from the American Heritage Dictionary:

"Salt: A chemical compound formed by replacing all or part of the hydrogen ions of an acid with metal ions or electropositive radicals" [57]. Note that according to the American Red Cross, salt prevents blood from clotting [106].

That is indeed very interesting to me especially given I know there are very much "hydrogen peroxide" issues that play into Alzheimer's [113] and Down Syndrome [114] (another disorder that absolutely fits into this puzzle).

It is also known that mercury binds with iron protein and that mercury increases the formation of hydrogen peroxide [115].

Could some of the kidney damage we are seeing associated with diabetes not be the result of metals passing through the kidneys as the body attempts to detoxify and that this could

somehow involve salt? It is, after all, certainly known that "diabetes could cost you your kidneys" [116] and that metals affect kidney function [117]. I quote:

"A single vaccine given to a six-pound newborn is the equivalent of giving a 180-pound adult 30 vaccinations on the same day. Include in this the toxic effects of high levels of aluminum and formaldehyde contained in some vaccines, and the synergist toxicity could be increased to unknown levels. Further, it is very well known that infants do not produce significant levels of bile or have adult renal capacity for several months after birth. Bilary transport is the major biochemical route by which mercury is removed from the body, and infants cannot do this very well. They also do not possess the renal (kidney) capacity to remove aluminum. Additionally, mercury is a well-known inhibitor of kidney function."—Boyd Haley Ph.D" [51].

Let us keep in mind that via prenatal vitamins alone, women could have received close to an extra 20 grams of iron over the course of just one pregnancy – of course, with each additional pregnancy, that iron load would be added to given the body has no good mechanisms for flushing excess iron [27, 32].

Note this comment on how much extra iron will do damage to major organs – I quote:

"Normal body iron stores are 3-4 grams. Each unit of transfused red cells contains 200-250 mg of iron. Thus, a patient who receives 2 units of blood each month would accumulate approximately 5-6 g of extra iron in one year. Without treatment to remove excess iron, damage to the heart and other organs occurs in patients who have received as few as 100 units of blood, or 20 grams of excess iron. Visible signs of iron overload, such as bronze or slate grey skin pigmentation, don't usually appear until enough iron has accumulated to cause tissue damage [118, emphasis added].

Again, this can be the same excess iron load resulting from just one pregnancy!

This does not even begin to address damage from iron overload or other metal toxicity in the unborn child! :o(

It is interesting to note that up to 80% of pre-term infants today are born with jaundice and up to 60% of those who are full term have jaundice [119].

Most doctors/hospitals/researchers still don't appear to understand the fact that the "bilirubin is not the problem" but rather the sign of a problem – and I very much suspect a very serious problem at that. Indeed, if you read websites on jaundice, many will say that, "it is nothing to be concerned about". This, in my opinion, only shows how "the high numbers" of children born with jaundice have made it such that it is "considered somewhat normal" to be born that way. Yet, clearly, bilirubin is only supposed to be found in cells in small amounts [120]. I quote:

"Bilirubin usually is present in low levels in cells; in high amounts it can be toxic and even deadly" [120].

Well, again, we need to ask, "Is it the bilirubin that is toxic or is it something else"? Given recent discoveries relating to bilirubin, it appears we may once again have been completely wrong in this critical area of "jaundice". I quote:

"Long considered more poisonous than precious, bilirubin starts to show its true colors as one of the human body's strongest defenders against oxidative assault" [121].

"So potent an antioxidant is bilirubin that it displaces glutathione, the molecule believed for 80 years to be the most important cellular antioxidant," says Solomon Snyder, director of Neuroscience at the Johns Hopkins School of Medicine…While it takes one glutathione molecule to consume an oxidant, a single bilirubin molecule can take care of 10,000 oxidant molecules, the scientists found" [122, emphasis added].

This certainly appears to be saying that bilirubin is the body's most powerful anti-oxidant for dealing with oxidative stress. Thus, bilirubin very much appears to be "a good thing", not a "bad thing" and its presence in excessive amounts in newborns is clearly a sign that these infants are dealing with oxidative stress. It is interesting to note that unconjugated bilirubin (part of the heme) is fat soluble and that bilirubin is water soluble.

Note also that there are 4 types of jaundice [123]. Indeed a child could be "born with" jaundice, or develop problems with jaundice believed to be associated with "breastfeeding" or "breastmilk" and jaundice tied to Rh Factor incompatibility [123]. Jaundice can also be caused by damage to the liver [63]. Excess iron in the liver has definitely been tied to liver damage (i.e., hemochromatosis, cancer of the liver, cirrhosis, etc.).

If indeed there are so many "types of jaundice" and jaundice results from excess bilirubin, now the most powerful antioxidant known to man, could it not be that jaundice is due not to "breastmilk" and the normal breakdown of red cells, but rather due to metal toxicity in infants and mothers. Both iron and mercury (i.e., from vaccines, dental amalgam and/or food sources) are known to pass to the unborn child.

Note that mercury, for example, is known to pass to infants via breastmilk and that it lodges in infants up to 8 times more readily than in the tissues of the mother [44].

Thus, again, we must ask: Is it the bilirubin that is killing babies (highly unlikely given it is the body's most powerful antioxidant) or is it perhaps metal toxicity?

I cannot help but laugh – and cry – when I read what doctors recommend for jaundice. Current recommendations include placing a child under special lamps or discontinuing breastfeeding for a short time period (i.e., a few days). Am I the only person to whom this now sounds absurd?

If indeed bilirubin is the most powerful antioxidant known to man and it is usually found in small amounts, should we not recognize jaundice as a serious issue in our newborn children – a sign that they are already experiencing oxidative stress?

If bilirubin is helping fight oxidative stress, should we be "breaking it down" via "currently accepted practices for dealing with jaundice" – practices that may be seriously outdated given recent discoveries about the important role bilirubin appears to play?

We won't even get into the absurdity of stopping breastfeeding as a means of "clearing up jaundice". Yes, the breastmilk may have mercury in it (note that in a woman, another area of fat deposition is in the breasts) and I could see stopping breastfeeding because of that issue. However, doctors are not recommending that breastfeeding be stopped because of metal toxicity – they are recommending that breastfeeding be stopped because they think that breastmilk is part of the problem – something I, personally, highly doubt given human breastmilk is intended and made especially for that newborn child!

Note that jaundice can also result from Rh Factor incompatibility – another "pregnancy issue".

How very interesting indeed given that women who have Rh Factor incompatibility are given 2 shots of Rhogam – laced with mercury (one shot at week 28 of gestation and one shot within 72 hours of giving birth – mercury that would head right for the unborn child and/or newborn infant given mercury is known to lodge preferentially in the developing child [44] and given it is passed to the infant via breastmilk [44].

Before continuing on the issue of Rh Factor incompatibility I wanted to bring something to everyone's attention.

Note that gestational diabetes, Rh Factor incompatibility, and the delay in the fetal globin switch from 2 alpha + 2 gamma to 2 alpha + 2 beta proteins all have one thing in common – they all occur right around week 28 of gestation! "Just coincidence", again?

It is important to note that in Rh Factor incompatibility, a woman is lacking IgD or immunoglobulin D. I quote:

"IgD is almost exclusively found inserted into the membranes of B cells, where it somehow regulates the cell's activation" [124].

It is also known that mercury compounds are immunodulatory and that they negatively impact b-cell function. Indeed, a decrease in b-cell function is associated with mercury toxicity [125]. I quote:

"The results of this investigation clearly show that mercury-containing compounds are immunomodulatory; moreover, the decrease in B-cell function indicates that this metal is immunotoxic at very low exposure levels. Furthermore, the cytotoxic events are consistent with the notion that mercury initiates changes associated with programmed cell death" [125].

Thus, if you destroy those beta cells, you can kiss your IgD goodbye – and hence – what may be the true cause of "Rh Factor Incompatibility" and "jaundice" in this situation!

This whole issue of a mother's body rejecting her unborn child – as is the case in Rh Factor Incompatibility – was another one of those things that simply made no sense to me – especially

in light of a comment I had found on the website of Dr. H. Hugh Fudenberg – a world-leading immunologist/biologist – I quote:

"In 1985 [Dr. Fudenberg] showed that there were at least two types of monocytes, one helper and one suppressor, and further showed that the ratio of suppressor monocytes to helper monocytes was greatly increased in the cord blood of infants, suppressing the response of maternal immune cells and explaining why the mother's immune system never rejects the fetus" [126].

Thus, it very much appears to me that all these "causes" of jaundice could all be tied back to the same thing – metal toxicity in mother and child!

But, of course, there is still more that seems to fit into this little puzzle of metal toxicity and pregnancy. Recently, I was amazed to hear that many pregnant women are developing "gallstones". This one I had heard from a woman I knew who had a friend recently admitted to a hospital for this very condition – gallstones during pregnancy. She was surprised when she was told that there had been 3 other recent cases of pregnant women with gallstones in this same hospital – a hospital in a town of about 14,000. When this acquaintance raised the issue with me, I was unaware of any possibility of gallstones fitting into this picture, however, given this seemed "rather odd", I decided to do a little research on gallstones.

I quote:

"Women are twice as likely as men to develop gallstones; the higher prevalence of gallstones in women is thought to be caused by multiple pregnancies, obesity, and rapid weight loss… Risk factors which can lead to increased incidence of gallstones include the "Four Fs:" fat, female, fertile, and flatulent, as well as sickle cell disease (bilirubin), cirrhosis, Crohn's disease, diabetes, pancreatic disease, and hyperparathyroidism" [127].

"Fat, female, fertile, flatulent"…

Don't we all just love the typical "blame it on the mom" attitude that so many seem to have today?

I too have a "catchy phrase" for all this… "M.D. Ph.D. - Medical Disasters by Pharmaceutical Dummies et al" … what I now saw as the true culprits in so many of these disorders! Can you tell I am no longer impressed by "letters after one's name"? That little undeserved pedestal toppled and crumbled a long time ago! To those of you who are in the field of medicine and/or research and who are truly attempting to get to the truth, my comments here are not directed at you. I know many doctors and researchers are victims too, and feel just as betrayed as families. However, too many know the facts and choose to ignore them and continue to lie to society and allow children and adults to be devastated and killed by their ongoing lies!

… But, back to the issues at hand…

How very interesting indeed that gallstones are more common in multiple pregnancies (equals more toxic iron), obesity (we store toxins in fat), rapid weight loss (you could burn fat but toxins such as metals are not easily flushed from the body in spite of weight loss [53]), female

(again, prenatal vitamins and high iron stores), bilirubin (most powerful antioxidant known to man), cirrhosis (that can be caused by excess iron too [128]), Crohn's disease (also tied to metal toxicity [129], diabetes (iron and insulin modulate one another [20, 129]), pancreatic disease (the pancreas' beta cells produce insulin), hyperparathyroidism (thyroid also very much implicated in metal toxicity given metals are known to greatly impact the endocrine system and the thyroid is certainly part of that system [42, 44, 130]). This is "just all coincidence", of course.

Could gallstones be another mechanism for the body to rid itself of toxins? Note also that gallstones are comprised, primarily, of cholesterol – a fat – and again, keep in mind, we store toxins in fat [128]! – I quote:

"About 80 percent of gallstones are composed of cholesterol, while the remainder are made of pigments, salts, and other chemicals… It is well known that in the Western world middle-aged, white females are most likely to develop gallstones. However, by age 60, almost 30 percent of all men and women have gallstones. Losing weight very rapidly produces stones in some people. Asian and African people have a low incidence of gallstones, while certain American Indian tribes have almost a 100 percent incidence in females by middle age. Therefore, heredity, age, and diet are probably all important factors in developing gallstones. Practically anyone, at any age and under certain conditions, can develop these stones" [128].

It is interesting that white women are more likely than women in other races to develop gallstones other races are more likely to have diabetes. Are these attempts at metal detoxification across cultural differences? More on this issue of cultural differences later.

There is no doubt that many issues play into this and obviously, diet would be one of those issues given anything that impacts insulin levels could be a factor in all this. For example, high sugar intake would absolutely impact insulin levels. The question becomes, would that then in turn impact iron levels given iron and insulin modulate one another [22]? And, likewise, given there are "good" and "bad" fats, does fat intake and the type of fat ingested play into all this also and impact the body's ability to store toxins in certain types of fats?

But, there is still more that fits into this puzzle of metal toxicity and mental illness… like the whole question of "genetics". A person can certainly have a "genetic mutation", however, it is critical to keep in mind that "genetic mutations" can be caused by environmental factors. Perhaps the best example of this may be Down Syndrome – "the genetic but not hereditary" condition whereby an extra strand of chromosome appears on chromosome 21 and hence the term Trisomy 21.

What most people do not realize is that Down Syndrome is "NOT hereditary" [131]. It is estimated that only 1% or so of cases are "hereditary" [132] - I quote:

"Down's syndrome can be traced through families in less than 1% of people with the condition [132]".

Granted, once you pass on the mutation, it becomes "hereditary", but, again, in most cases, Down Syndrome is NOT considered "hereditary" – "genetic" – yes – in that a mutation occurred on chromosome 21 – but NOT "hereditary".

Thus, if the genes of the parents were fine, what caused the mutation on chromosome 21?

Some would have us believe that this is simply "an accident" of birth. Well… given what I now knew of the marvels of the human body when it came to cell division and things like polymerase – something that looks for errors in the genetic code during cell division – and when it finds one – it literally "backs up the process", corrects the information and then moves on with an error rate estimated at 1 in a billion [133] – I doubt very much that Down Syndrome is simply "an accident" of "bad genetics"! Indeed, now for the theory that will probably floor many of you – I suspect that the extra chromosome may be an attempt by the unborn child at "fixing the problem".

Over and over we see that what we once saw as the problem is actually part of the solution (i.e., bilirubin, etc.). I suspect one day we will find the same to be true of that extra chromosome in Down Syndrome. Just "my guess", of course!

Let us look at this issue of Down Syndrome a little more closely because it very much does fit into this puzzle…

It is a little known fact that persons with Down Syndrome are also more likely to have autism (6-10% with DS will also have autism [134, 135]).

Persons with Down Syndrome are also much more likely to have diabetes than "normal" peers [136].

Persons with Down Syndrome are 10 to 30 times more likely to have leukemia [137]. Note that high levels of iron in the liver are tied to cancer of the liver [138] and that in the unborn child, blood is produced first in the liver and then that function migrates to the bone marrow [139].

If cancer of the liver is associated with high iron stores in the liver and blood production in the unborn child is first in the liver, then the bone marrow, could cancer cells perhaps already beginning to form in the liver not infiltrate the bone marrow as the blood production function migrates from the liver to the bone marrow in the unborn child?

Note that infiltration of the bone marrow by cancer cells is considered one of the causes of "anemia" [140].

Also, by age 35 or so, up to 25% of persons with Down Syndrome will have a brain that resembles that of a person with Alzheimer's [141].

In Down Syndrome, one of the things which is considered "suspect" is Super Oxide Dismutase or SOD [142, 143]. SOD is an antioxidant enzyme [144, 145]. Note that one of the things known to impact SOD activity is dietary iron [145]. I quote:

"Colon cancer is the second leading cause of cancer mortality in the United States and the fourth most common cause of cancer mortality worldwide (Cancer Facts and Figures 1997 +)… Superoxide dismutases are metalloenzymes [that would seem important here] that play a vital role in the protection of aerobic cells against oxygen toxicity (Fridovich, 1975 +)…Altered activities of superoxide dismutase were shown to be important in multistage carcinogenesis of

both rodents and humans. When compared to their appropriate normal cell counterparts, tumor cells are almost always low in MnSOD and CuZnSOD activity (Sun 1990 ✦)…Furthermore, increased amounts of superoxide dismutase were shown to be protective against cancer…Dietary factors are potential modulators of both MnSOD and CuZnSOD activity… Ingestion of high amounts of dietary iron significantly decreased heart and colonic mucosa MnSOD activities (Davis et al. 1990 and 1992a ✦✦, Kuratko 1997 ✦). Similarly, lymphocyte MnSOD activity in women was significantly affected by dietary manganese and iron (Davis and Greger 1992 ✦, Davis et al. 1992b ✦). The relationship between dietary iron and MnSOD activity may have implications for cancer susceptibility. Four epidemiologic studies have shown an increased cancer risk in patients with larger iron stores than in those with small iron stores (Reizenstein 1991 ✦), and hemochromatosis was associated with iron-induced carcinogenesis (Toyokuni 1996 ✦). In fact, the major cause of death in hemochromatosis patients is hepatocellular carcinoma (Niedereau et al. 1985 ✦)… These findings suggest that dietary alterations that affect superoxide dismutase activity will affect cancer susceptibility." [145, emphasis and comment added].

And, not surprisingly, there also appeared to be an SOD link to Alzheimer's [145], to autism [146] and to schizophrenia [147, 148].

All "just coincidence"? Truly, I think there could be no denying that all these disorders are interrelated and that their root cause appears very much to be metal toxicity!

There are a few other issues I want to briefly touch upon in this paper. For example, it is certainly known that there are cultural differences in terms of who is most impacted by diabetes. Groups most susceptible to diabetes include African Americans… especially African Americans naval personnel [149]. Indeed, the incidence of diabetes among African Americans is alarming – I quote:

"African Americans are 1.6 times more likely to have diabetes than non-Hispanic whites. 25% of African Americans between the ages of 65 and 74 have diabetes. One in fourAfrican American women over 55 years of age has diabetes." [150]

I suspect a couple of things to be at play here. As far as the "naval personnel", well, on that issue, I could only advise concerned families to read what world-leading immunologist/biologist Dr. H. Hugh Fudenberg [151] had to say on matters of Gulf War Syndrome because he very much appears to attribute the majority of cases, potentially up to 80%+, to vaccine injury – not surprising given military personnel can receive up to 17 immunizations simultaneously [151].

But, clearly, I think something else plays into this – pigment in the blood!

Bile is a critical substance produced by the liver. Keep in mind that a young child does not produce significant amounts of bile for several months after birth [51]. The liver is the body's main detoxification organ. The main pigment found in bile is bilirubin [152]. When found in excess, bilirubin causes the condition known as "jaundice". Keep in mind, however, that bilirubin is now the most powerful antioxidant known to man [122] – as such – a good thing – not a bad thing.

I suspect that something having to do with blood, glucose, bilirubin and skin pigmentation may be at play in the higher incidence of diabetes in African American and other "non-Caucasians". Of course, that is, again, only "my theory" at this point, but one I hold because iron and insulin modulate each other and glucose certainly is impacted by insulin. I know that things like glucose and bilirubin all play into this, and there are certainly some articles that seem to indicate that also [153].

Other high-risk groups for diabetes included Native American Indians, Hispanics, and Asians [154].

Perhaps this has something to do with melanin because in many races, melanin production is continuous so the skin is always pigmented to some degree – but such is not the case for Caucasians [155].

"Melanocytes actually produce two different pigments: eumelanin (brown) and phaeomelanin (yellow and red) [155]. Melanocyte-stimulating hormone (MSH) is produced by the pituitary gland. MSH flows through the bloodstream and reaches the melanocytes, encouraging them to produce more melanin (for example, a person injected with a large dose of MSH will get darker). The pituitary gland is actually quite interesting - it is tied into the optic nerve, which means that it can sense light… Melanin is a dark compound that is called a photoprotective pigment. The major role of melanin pigment in the skin is to absorb the ultraviolet (UV) light that comes from the sun so that the skin is not damaged… Melanin pigment is important in other areas of the body, such as the eye and the brain, but it is not known what the melanin pigment does in these areas" [155].

It is probably also relevant that the liver (the body's main detoxifying organ) forms its bile pigments (so closely associated with bilirubin – the most powerful antioxidant known to man) from hemoglobin [87].

Could temperature (warmer climates) and sunlight play a role in all this? Perhaps. This certainly is very interesting given light/sunlight "breaks down" the bilirubin in jaundice cases and given jaundice is now so prevalent in newborns (I suspect due to metal toxicity). If bilirubin is "a good thing", do we really want to "break it down" via exposure to light or should we let it "do its thing"?

The fact that melanin is also tied to vision and the brain also makes me wonder as to its possible implications in diabetes. Of course, there are other things that make me wonder about the role of melanin in diabetes.

For example, a condition known as Hanot-Chauffard syndrome (Troisier-Hanot-Chauffard syndrome) was – and I quote:

"Diabetes mellitus associated with hypertrophic cirrhosis of the liver and dark brownish skin pigmentation caused by deposition of excess of melanin or iron pigment, or both, in tissues" [156].

Note the following as it relates to this disorder – Hanot-Chauffard syndrome – I quote:

"Troisier-Hanot-Chauffard syndrome

Also known as:
Hanot-Chauffard syndrome
Leschke's syndrome
Recklinghausen-Applebaum syndrome
Troisier's syndrome

Synonyms:

Bronze diabetes, diabetes haemochromatosis syndrome; iron overload syndrome, iron storage disease, iron storage syndrome, idiopathic haemochromatosis, pigmentary cirrhosis, primary haemochromatosis syndrome" [157, emphasis added].

These disorders are associated with/named by the following persons:

L. Applebaum , Anatole Marie Émile Chauffard , Erich Leschke , Friedrich Daniel von Recklinghausen , Charles Emile Troisier .

Given these men date back to the 1800s, clearly, it looks like those in medicine or the pharmaceutical industry may have known for a very long time about the link between diabetes and iron overload… funny though… so much in the Merck Manual indicates that we do not know what caused things like gestational diabetes, etc. Indeed, in the Merck Manual's section on diabetes mellitus, there is not a word at all on iron playing a role in this disorder [158].

You would think that there would be SOME reference to iron under "diabetes" in this medical reference.

Granted, this is the "online version" and it may not include everything a complete Merck Manual might include. I for one would certainly love to know if a "complete Merck Manual" includes any reference with iron overload in the section for diabetes!

Yet, even if only the "online version", it seems to me that there should at least be some kind of "cross-reference" for persons looking into issues of diabetes to know that iron is absolutely tied to diabetes issues and that there are "all these other names" tied to diabetes mellitus as well. Is it just me or does that appear to be a rather large oversight on the part of the folks who compile the Merck Manual, especially in view of findings clearly showing that iron and insulin modulate one another [20] and given it is known higher iron stores increases a person's risk for developing diabetes [21]? Oversight or intentional? That is the question. Humm… how very odd indeed given Merck states it is "committed to providing excellent medical information" [158]. If that is true, you would think they would at least get the basics down in terms of "cross-referencing" disorders or issues (i.e., diabetes and iron) that are clearly linked and have been for a very LONG time! I see absolutely no excuse for this "exclusion" or lack of "cross-reference" by the Merck Manual when it comes to the link between diabetes and iron!

So this Hanot-Chauffard syndrome is diabetes mellitus and it is associated with iron overload and has been for over a hundred and fifty years. Well… we still have "diabetes mellitus" today… yet the "iron overload" link to diabetes mellitus seems to have completely disappeared from medical resources such as the Merck Manual [158]! I wonder why… Is that not all very interesting indeed!

This whole issue of certain races being more impacted by devastating disorders such as diabetes should be of great concern not only to minorities but to all persons of the human race - because their is only ONE human race - regardless of skin color - and as such - personally, I tend to question a little more what I see as "critical exclusions" in key sources used for "education" purposes.

The "Merck Manual" is considered "the world's largest selling medical text" and as such, clearly, what is included - or perhaps just as critical - NOT included (i.e., purposely omitted) - would certainly be a factor in "educating" not only the medical community but the public as well given this is clearly one of the most popular medical textbooks/references. It makes one wonder "what else has disappeared" from the Merck Manual?

As such, personally, I take great exception with "exclusions" for things we know seriously impact one race more than another. How can there be "proper care" for these races that are most impacted when serious exclusions are made in key references?

I think this is an issue all minorities - and indeed - all persons - need to take very seriously and we should certainly be asking those who publish the Merck Manual the "reason" for such blatant exclusions in their section on diabetes - a devastating disorder absolutely known to have a greater impact on "non-Caucasians"!

"Let me control the textbooks and I will control the state." Adolf Hitler

Clearly, there is no denying that iron overload and diabetes have been tied to one another for well over 150 years... so, again, I think we need to seriously ask ourselves why there is no mention of this association in the Merck Manual!

Personally, over the course of my research into matters relating to vaccines, metal toxicity and mental illness, I have seen enough of what I consider blatant lying and/or incompetence by those in the pharmaceuticals/FDA/CDC to quite frankly, no longer trust them.

Blind trust is mistake number one - and a costly one at that! - as too many families have now discovered!

"The right to search implies also a duty. One must not conceal any part of what one has recognized to be the truth". [Albert Einstein]

In looking at [156] and [157], it is interesting also to note the many terms associated with "diabetes" and the fact that disorders so often appear to be "renamed" or seem to have "so many shades of the same thing" – what I now suspect to also be true for autism-schizophrenia-Alzheimer's! Renaming disorders or providing new names for "different shades of the same thing" is certainly a great way to keep the public confused in my opinion!

I have no doubt that pigmentation and blood play into all this. The blood certainly is known as the source of life in the human body - regardless of race. If you destroy the blood, you destroy what provides life to the human body and regenerates it. Indeed, science is now showing that the bone marrow may be another source of stem cells for the brain [159].

If indeed that is true, one would have to question the need for stem cell research as it pertains to the use of aborted children! This seems to be yet another argument for the case for adult stem cell research as opposed to fetal stem cell research.

Some are also seeing stem cells in the placenta and cord blood as a possible source of stem cells – although there are issues and concerns over "early cord clamping" by doctors and/or organizations who would want to harvest those cells. The issue being raised here is that some believe "early cord clamping" may damage the newborn [160].

The point I am obviously making is that we clearly appear to have "alternatives" for stem cell research – alternatives that do not involve the use of fetal stem cells and that blood is key in many, many of these disorders – not only in what happens when you destroy the blood – but also in the answers it may hold for treating so many of these disorders.

Very interesting in all this is the fact that Dr. Jeff Bradstreet, a physician and autism researcher now believes up to 90% of children with autism could have blood type "A" [161]. The reason this is "most interesting" to me has to do with the fact that different blood types have different sugar chains in them [162] and if there is one thing I have seen in this research, it is certainly the role of insulin in mental illness – a hormone that impacts sugars in the human body.

Indeed, if a particular sugar is missing, the body can see that as something to "attack" [162]. In the last 20 years, we have moved from a handful of autoimmune diseases to close to 100 [162].

The study of glycobiology – having to do with what are now believed to be "healing sugars" - is now considered the "hot new field of medicine" and is believed by some to be what would be one of the hottest fields of research in medicine for the next 10 years [162].

"Healing sugars" – glucose is a sugar - and glucose is one of the 8 glyconutrients found in the human body – and it very much plays into all of this!

Amazingly, a young girl with Down Syndrome had taken glyconutrient supplements and is said to have "significantly less pronounced traits of Down Syndrome" [163].

Not surprisingly, glyconutrients also appear to help some with diabetes, obesity, depression, ADHD and cancer [164].

Persons wanting to learn a whole lot more about glyconutrients could also read Science Magazine, 23 March 2001 - Vol 291 - No 5512. The entire issue had been devoted to the science of glycobiology.

More references/information and information from a very extensive "web tour" on glycobiology is provided in reference [165]. The "web tour", posted at: http://www.sciencemag.org/feature/data/carbohydrates.shl is truly a "must visit" for anyone with an interest in these issues.

It very much does appear that glyconutrients – healing sugars - play a critical role in all of this given blood types differ in their sugar chains, given iron and insulin modulated each other and given so much more that has been covered in this paper that seems to tie back to diabetes, insulin and the role of sugars in the human body – a role I now very much believe involved metal detoxification.

Interestingly, type 1 diabetes is considered an autoimmune disease – I quote:

"Insulin dependent diabetes mellitus (type 1) is an inflammatory autoimmune disease of the pancreas, resulting in a lack of insulin" [166].

Note again that iron is known to lead to "inflammation" and that it accumulates in the beta cells of the pancreas [20].

Type 2 diabetes does not appear to be classified as an "autoimmune disease" because the body does not destroy its own beta cells (cells in the pancreas that produce insulin), but rather in this case, the insulin just appears to not be used properly by the body [so we think]. In this case, insulin is being produced, it simply is not reducing glucose levels as we think it should be – but, then, perhaps there is a reason for that, as previously mentioned in this medical hypothesis paper.

Although not considered an autoimmune disease because the body does not "attack itself" in Type 2 diabetes, clearly, insulin resistance very much plays a role in Type 2 diabetes – I quote:

"Type 2 diabetes may account for about 90% to 95% of all diagnosed cases of diabetes. It usually begins as insulin resistance, a disorder in which the cells do not use insulin properly. As the need for insulin rises, the pancreas gradually loses its ability to produce insulin" [167, emphasis added].

So, again, perhaps it is just a matter of "semantics" when it comes to whether or not Type 2 diabetes is an autoimmune disease, because the "end result" appears to be the same as that of type 1 diabetes with the pancreas "losing its ability to produce insulin"!

Again, I must ask a question: Is it the need for insulin that makes the pancreas lose its ability to produce insulin or the metal toxicity?

If it is "the need for insulin", you would think that persons with a very high sugar intake (i.e., French Canadians) would have a much, much higher incidence of diabetes than the rest of the world.

My dentist had once commented on how many cavities I had. I told her I was French Canadian and was raised on maple sugar, maple toffee, maple everything. She then commented: "That explains it… French Canadians are among the worse for tooth decay in the world".

So, anything relating to a higher incidence of diabetes or mental illness in French Canadians, I surely would have noticed given these were my own "roots". Yet, I had found no research to indicate this is the case and most French Canadians are Caucasians – not the race most susceptible to diabetes.

My point here is simply to state that I question the logic of "the need for insulin" as the reason for which the pancreas loses its ability to produce insulin – leading to insulin resistance – a first sign of type 2 diabetes.

Note the following quote from that critical article, Cross-Talk Between Iron Metabolism And Diabetes - I quote:

"Fourth, a novel syndrome of hepatic iron overload has been described that associates hyperferritinemia with normal transferrin saturation and is not linked to the HLA-A3 antigen, a common marker for hereditary hemochromatosis.[39] This condition is known as insulin resistance-associated hepatic iron overload (IR-HIO) and combines abnormalities in iron metabolism (isolated hyperferritinemia with normal transferrin saturation), steatohepatitis, and the insulin resistance syndrome (obesity, hyperlipidemia, abnormal glucose metabolism, and hypertension) (39-41)" [20, emphasis added].

Note: "Not hereditary"… insulin resistance tied to iron overload… where transferrin saturation levels can be normal in spite of the presence of iron overload [20, emphasis added].

That is very interesting again given that when the Pfieffer Treatment Center's Dr. Walsh looked for issues of iron overload in the center's 3,000 children with autism, he found that about 1/3 had very elevated levels of iron [168]. I quote:

""Last year William Walsh, PhD of the Pfeiffer Treatment Center (Illinois) reported the following interesting data relating high iron and autism:"

"At the request of an autism parent group about 6 months ago, I checked out iron levels in our population of 3,000 autism patients. We found that autistic children exhibited higher serum iron levels than controls (non-autistic, healthy children). However, all of the differences occurred in about 1/3 of the autism population with the other 2/3 resembling the controls. The high iron kids were extremely high, the rest of the autistics were quite normal, and there was little or no "middle ground". It appears that a segment of the autism population has very abnormal iron metabolism (and abnormal ceruloplasmin)."

"My data essentially confirms the findings of the M.H. [Med Hypotheses. 2003 Aug;61(2):220-2.] article. Iron free radicals (ions) represent the primary oxidative stress in the brain of most humans. Autism involves oxidative stress during early brain development. In theory, elevated iron in the brain could result in autism. A genetic inability to regulate iron might be causative in 1/3 of autism cases." (September 16, 2003)""[168, emphasis added].

The parent who had spearheaded this research is Kathy Blanco, a parent who has long suspected iron overload could be an issue in autism, a parent who has written a an excellent paper – one of the first I had read on this issue of iron overload and autism [169].

Could the other 2/3 of the autistic children at the Pfieffer Treatment Center be showing "normal" saturation readings in spite of iron overload given the above quote stating that there can be normal transferring saturation I spite of iron overload? Again, certainly key questions that need to be investigated given it very much appears we may be "fooled" by tests that appear normal for "iron load" when in fact, iron overload may exist!

Let us again examine this critical quote a little more closely:

"Fourth, a novel syndrome of hepatic iron overload has been described that associates hyperferritinemia with normal transferrin saturation and is not linked to the HLA-A3 antigen, a common marker for hereditary hemochromatosis.[39] This condition is known as insulin resistance-associated hepatic iron overload (IR-HIO) and combines abnormalities in iron metabolism (isolated hyperferritinemia with normal transferrin saturation), steatohepatitis, and the insulin resistance syndrome (obesity, hyperlipidemia, abnormal glucose metabolism, and hypertension) (39-41)" [20, emphasis added]

There certainly appeared to be many pieces of the puzzle fitting into this "novel syndrome" - this new type of iron overload which involves insulin resistance and yet is not linked to the hereditary hemochromatosis [20] (inability to properly process iron resulting in organs rusting out). Note also that "steatohepatitis" is a condition in which fat droplets form in the liver - I quote:

"Fatty Liver :Fatty liver is an excessive accumulation of a type of fat (triglyceride) inside the liver cells. In the United States and other Western countries, the most common causes of fatty liver are alcoholism, obesity, diabetes, and elevated serum triglyceride levels. Other causes include malnutrition, hereditary disorders of metabolism (such as the glycogen storage diseases (see Muscular Dystrophy and Related Disorders: Introduction and Hereditary Metabolic Disorders: Glycogen Storage Diseases), and drugs (such as corticosteroids, tetracycline, and aspirin). The mechanism by which these diseases or factors cause fat to accumulate within liver cells is not known. Simply eating a high-fat diet, for example, does not produce a fatty liver. One possible explanation is that these diseases or factors slow the rate at which fat is processed (metabolized) and excreted by the body. The resulting buildup of fat within the body, according to this theory, is then stored inside the liver cells. Sometimes the cause of fatty liver is not clear, especially when it occurs in newborns; however, it is likely to be a defect in the mitochondria of the liver cells.

In some people, a fatty liver not due to alcohol abuse or drugs and toxins but associated with obesity, diabetes mellitus, and raised serum triglycerides will progress to scarring (fibrosis) and cirrhosis, possibly because of underlying inflammation. This type of fatty liver is sometimes referred to as nonalcoholic steatohepatitis" [170, emphasis added].

Again, note some of the key things listed in this definition… and the fact that eating a diet high in fat does not in and of itself lead to this condition! Mitochondria dysfunction is also very much associated with metal toxicity [117, 171].

Note also this statement from the United Mitochondrial Disease Foundation - I quote:

"Mitochondrial defects have also been linked to Alzheimer's, Parkinson's, diabetes, autism, and the aging process" [172].

Note that steatohepatitis (also mentioned in that critical quote above) is also tied to the effects of iron and/or other toxins on the human liver [170, 173]. I quote:

"Non-alcoholic steatohepatitis (NASH) is increasingly recognized, and its pathogenesis is believed to involve increased oxidative stress. Elevated levels of serum ferritin and positive liver iron stains are often observed in patients with NASH, and the pathogenesis of liver injury due to iron is also thought to involve oxidative stress " [173].

Again, note the terms/issues that by now are all too familiar…

How interesting again, given it is known that the body stores toxins in fat and given the liver is the body's main detoxifying organ – an organ that itself could come under attack by excessive iron, aluminum, mercury or other toxins – an organ not fully mature or fully functioning in the unborn or young child!

And, how very interesting that we have so many disorders involving toxicity in the human body today - especially given the fact that the liver - the body's main detoxifying organ is known to regenerate itself. Indeed, you can cut off a huge chunk of the liver and it will grow back rather quickly [174]... and yet, society faces so many liver disorders and so many are now in liver failure. Hum... something just did not seem right here!

Could this have something to do with insulin and that fact that liver regeneration is impacted by insulin-like growth factors closely related to insulin [175]?

Let us remember that iron and insulin modulate one another [20] and that prenatal vitamins are loaded with iron - iron that preferentially finds its way to the unborn child - and that in the unborn child, blood is produced first in the liver and then that function migrates to the bone marrow and as such, iron would certainly be finding its way to the liver of the unborn child - perhaps iron in very, very toxic doses given a woman could get up to 20 GRAMS of iron over the course of just one pregnancy!

Keep in mind, 1 gram causes severe poisoning in a child under 2, 3 grams is a lethal dose and even the USFDA states that as little as 600 mg of iron can be fatal to a small child [49].

Clearly, iron and insulin modulate each other… but insulin and diabetes also appear to impact other metals as well [176] – I quote:

"Diabetes can alter copper, zinc, magnesium, and lipid peroxidation status" [176].

Diabetes may also be tied to lead poisoning/toxicity [177]. This particular article [177] is in Italian and I was unable to find more than its title online and reference in which it had appeared. But, again, certainly the title seems to indicate that diabetes could be tied to lead poisoning.

Thus, again, we must ask: Is everything we are seeing as far as the explosion in diabetes and in mental illness "the cause" or "the effect" resulting from the body's attempts at dealing with issues of metal toxicity and hence the reason we see diabetes associated with issues of "metal imbalance" or "metal toxicity"?

How is it that insulin appears to be tied to so many "metal and/or mineral issues"? Is it possibly because insulin plays a role in metal detoxification (in the case of metals that don't belong in the body or are found at elevated levels when they should be found in trace amounts) and/or because insulin plays a critical role in the proper balance of metals in the human body (in the case of metals that do belong there – although perhaps in much smaller amounts than are being found)? Why is it that insulin is tied to so many issues pertaining to metals/minerals and/or toxins?

For example, the confirmed poisoning of Viktor Yushchenko – the Ukrainian presidential candidate who was poisoned with dioxin may be another case in point. Clearly, doctors confirmed that with the poisoning, there had been acute pancreatitis [178]. Dioxins dissolve well in fat, explaining why they are found in meat, fish, and dairy products due to animal exposure to pesticides, etc. This indicates animals may also be storing their toxins in fat - thus the potential benefit in "eating lean"! It is also known that dioxin poisoning can increase a person's risk for diabetes [179].

Could the increased risk for diabetes from dioxin poisoning be yet another clue that the pancreas is absolutely involved in detoxification functions and that in this case – "a very unique case of poisoning" in terms of the victim surviving a "one time large toxic dose" – what is possibly a detoxifying organ itself – the pancreas – may also have been overwhelmed? Note that it has long been known that the pancreas worked closely with the liver – what is normally thought of as the body's main detoxifying organ.

Dioxin poisoning could also result in liver damage, gastrointestinal disturbances, metabolic disorders, tiredness, weakness in the legs, increased sweating [another way we detoxify], slight increase in blood fats [how interesting again], nerve damage, etc. [179] – certainly all things that are now "all too familiar" in my opinion in terms of signs of some kind of toxicity in the body! So, what really caused that acute pancreatitis in Viktor Yushchenko - the food itself or the toxins in it? I think we could all agree that it was most likely the toxins! Again, if an organ is tied to a specific function – in this case detoxification – would it not stand to reason that it would somehow have to "draw those toxins" to itself in order to perform its work or release "something" into the bloodstream (i.e., potentially - insulin) to detoxify the body?

Acute pancreatitis usually lasts a short period of time (i.e., could be as long as a few days) and often resolves on its own. In reading about this condition, I could not help but think of how much it sounded like "food poisoning" involving the pancreas. What I am trying to say here is that "normal food poisoning" (i.e., not Yushchenko's dioxin poisoning) may also involve the pancreas and if it does, that in my opinion, may be yet another indication that the pancreas has detoxification functions. Note that some reports suggested liposuction [180] could be an option for helping Mr. Yusshchenko detoxify his body because dioxin, like other toxins, accumulates in fat!

In very severe cases, acute pancreatitis can be deadly – resulting in dehydration, low blood pressure, kidney, lung and heart failure [181]. Acute pancreatitis is usually caused by

excessive use of alcohol or gallstones. Well, again, there is no doubt that "excessive alcohol consumption" can result in "poisoning" and I have a hunch that gallstones may result from some kind of poisoning or toxicity, too – as discussed earlier.

We could go on for a long time on some of these issues. In this paper, I had focused more on iron than other metals, although, clearly, in my opinion, other metals/toxins very much play into this – metals like mercury and aluminum. In so much of my research, the word "beta", for example, seems to pop up over and over and over again – in matters relating to iron – and in matters relating to mercury.

For those wanting to learn more, you may want to also read my short write-up: BETA... BETA... BETA... That Key Word! [182] or consider reading my third book, Breaking The Code: Putting Pieces In Place! [183], posted in full on my website, http://www.autismhelpforyou.com.

For those wanting to learn more about what I could only view as the CDC's attempts at hiding the autism-vaccine link, I encourage you to read my write-up on "The Incredible White Washing Of The CDC Thimerosal Study Population Sample: A Signal Where There May Have Been A Tornado Warning!" [184]. Once you understand the history of autism, schizophrenia and Alzheimer's and realize that insulin very much plays a role in all these disorders, I think it can easily be argued that perhaps the CDC knew exactly what it was doing when it excluded certain very key groups from the thimerosal study of 2000 and its multiple "re-dos". This write-up very much shows how the government manipulated the thimerosal study population sample in attempts to make the autism-vaccine link "disappear". This article is also included as a chapter in my third book, Breaking The Code: Putting Pieces In Place! [183].

That write-up provides for readers "an idea" as to the outright manipulation that was done by the CDC with regard to this issue.

Of course, outright manipulation of the population sample in a key study is one thing – total incompetence is quite another!

To give you an idea of "the level of competence" in our government agencies when it comes to issues of metal toxicity, consider the following:

At the time that the FDA was telling pregnant women not to eat tuna because of the fact that mercury in tuna could lead to neurological problems in unborn children, the CDC, another government agency was telling pregnant women and advising mothers of young children to "get their flu shots" – shots that contained 250 times more mercury than did the tuna [185]! I quote:

"It turns out that, at the very time government health officials were warning of the influenza epidemic, they also were putting out unrelated warnings about the quantities of tuna and other fish that could be ingested safely in view of the high levels of mercury in their flesh. The Environmental Protection Agency (EPA) recommends ingesting no more than 0.1 micrograms of mercury, while the FDA recommends no more than 0.4 micrograms per kilogram per day. What this amounts to is a recommendation by the EPA and the FDA that women and small children eat no more than 12 ounces of tuna or other fish or shellfish per week. This is because, according to the EPA, "mercury consumed by a pregnant or nursing woman or by a young

child can harm the developing brain and nervous system. Yet the Advisory Committee for Immunization Practices has issued a warning, passed along by the CDC, that "all children aged 6 [months] to 23 months and pregnant women in their second and third trimester" receive the inactive influenza vaccine - which contains a full 25 micrograms of mercury - 250 times the limit the EPA recommends for tuna-lovers" [185, emphasis added].

For more on issues of "competence" at the CDC/FDA/Pharmaceutical Industry, I encourage you to also read my chapter on "The Aluminum Connection"[183] – again – provided in my third book, Breaking The Code: Putting Pieces In Place! This will provide for you "an idea" of just how "minimal risk levels" are set by the CDC – The level of incompetence is truly incredible – to say the least!

UPDATE MAY 1, 2006

To give you an idea of "the competence" - or more accurately - the lack thereof - of those to whom so many have entrusted their health, consider the following quotes from the Puerto Rico meeting of 2000 on aluminum in vaccines - I quote:

Perhaps the most disturbing comment, for me, personally, was this one - I quote:

"Perhaps the most important thing that I took away from the last meeting was that those of us who deal with vaccines have really very little applicable background with metals and toxicological research." [Dr. Martin Myers, Director of the National Vaccine Program Office, Department of Health and Human Services, National Vaccine Program Office Workshop on Aluminum In Vaccines, Caribe Hilton International Hotel, San Juan, Puerto Rico, May 11th - 12th, 2000, p. 1, transcripts provided by Eberlin Reporting Service, 14208 Piccadilly Road, Silver Spring, MD, 20906, (301) 460-8369)].

and this quote... again, in a meeting to assess the dangers/benefits of aluminum - a *known* gene mutant – in vaccines...

"Aluminum is not perceived, I believe, by the public as a dangerous metal and, therefore, we are in a much more comfortable wicket in terms of defending its presence in vaccines" [Dr. John Clement representing World Health Organization at Department of Health and Human Services, National Vaccine Program Office Workshop on Aluminum In Vaccines, Caribe Hilton International Hotel, San Juan, Puerto Rico, May 11th - 12th, 2000, p. 64, transcripts provided by Eberlin Reporting Service, 14208 Piccadilly Road, Silver Spring, MD, 20906, (301) 460-8369)]. " [55]

Well... if that doesn't tell you something about "competence" and morals - or more accurately - lack thereof - at the FDA/CDC/WHO and pharmaceuticals... I don't know what does! The discussion on how "minimal risk levels are set" is truly an enlightening one...and one I would encourage everyone to read. It is found on pages 172-182 of this transcript - which is posted in full on my website, http://www.autismhelpforyou.com - 400+ pages of very interesting reading

for those of you who have an interest in "competence" issues! For those wanting to learn more about matters of integrity in these same organizations, consider reading a doctor's letter to the New Mexico Board of Pharmacy, dated October 2005 [198] or his Medical Veritas paper [199] comparing autism to Minamata disease (known to result from mercury poisoning) ! Both articles were MUST READ papers and were very revealing when it came to deceptions of the NIH and tactics used to promote thimerosal in spite of knowing data is flawed. These papers also show flaws in studies put forth in media and how they've been used to show "no autism-vaccine link" in spite of the many flaws and data integrity issues in these studies. Yet, these same studies were used to basically stop federal funding into the autism-vaccine link - so... looks like the NIH will look at ANYTHING BUT the mercury connection! Note that one can clearly see "chromosome du jour" NIH research and how pretty well every chromosome in the genetic code has been said to have "autism genes" if a little time is spent digging into these issues. END OF MAY 1, 2006 UPDATE and FEB 2007 ([199] reference).

Keep in mind that not once in 80 years did the CDC or pharmaceuticals do a study to evaluate the safety of mercury in vaccines [35]. And, yet, the FDA has no problem with approving vaccines – in ever increasing numbers - laced with mercury – in ever increasing doses!

Also keep in mind that the FDA considers aluminum to be GRAS or Generally Recognized As Safe for use in vaccines in spite of the huge body of literature showing it to be a very toxic substance. Note that aluminum is also very much known to bind to transferrin– the iron mobilization protein [55, 75, 100]. I quote:

"Aluminum has been exempted from testing for safety by the FDA under a convoluted logic wherein it is classified as GRAS. (Generally Regarded As Safe.) It has never been tested by the FDA on its safety and there are NO restrictions whatever on the amount or use of aluminum. There are over 2000 references in the National Library of Medicine on adverse effects of aluminum." [75, emphasis added].

Given the CDC and pharmaceuticals never did a study once on the safety of mercury in vaccines in over 80 years [35], it appears to be a given that they also never once did a study on the "synergies" of adding mercury and aluminum together in vaccines.

If aluminum is considered "Generally Regarded As Safe" and is completely unregulated by the FDA in its use, why would the pharmaceuticals even care about the effects of this metal in vaccines? It is not the CDC's approval that is needed for vaccines it is that of the FDA – what I now call "The Failing In Duties Administration".

It is pretty obvious that the CDC, FDA and pharmaceuticals – and indeed – governments in general – do not appear to care about this of metals in vaccines and about the synergies of those metals, but, why should we care?

Well… perhaps the following will shed a little light on that issue. Metals are very reactive and hence, the effect of combining metals is often much, much worse than providing either metal alone. To give you "an idea" of the implications of this, consider the following quote as it relates to mercury and aluminum when they are combined – as is the case in many vaccines. Perhaps this brief example will give some of those in government and indeed – society - "a clue" as to why this issue is important. I quote:

"Another important factor with regard to mercury on the mind, which officials at the CDC, FDA and the professors in the IOM do not consider, is synergistic toxicity – mercury's enhanced effect when other poisons are present. A small dose of mercury that kills 1 in 100 rats and a dose of aluminum that will kill 1 in 100 rats, when combined have a striking effect: *all* the rats die. Doses of mercury that have a 1 percent mortality will have a 100 percent mortality rate if some aluminum is there. Vaccines contain aluminum " [186, 187, emphasis added].

Note this reference [186] provides a picture of mercury vapor still being released from a 25-year old "silver" filling – those fillings are actually 50% mercury (the tooth had been extracted 15 years before the picture was taken).

In my opinion, another area of "expertise" or of "looking out for what is in the best interest of the public" when it comes to the FDA and the pharmaceuticals is certainly that of the move toward the regulation of healthcare supplements such as vitamins, minerals, amino acids, etc. – products that have NEVER been regulated in the past – products that have helped so many in caring for their own health – products that the pharmaceuticals and government would now like to basically make "prescription only".

There is already a big push in Europe to do this and to "standardize" doses in such products. In effect, regulation could make it such that any "over the counter doses" would be so small for things like B vitamins, and other vitamins, minerals and amino acids, etc. that they would become basically worthless – nothing more than "filler" in a bottle. As such, I think we all need to question this push to regulate things like vitamins, minerals and other products currently available in health food stores – products that have NEVER been regulated in the past.

Could the "push" for the regulation of vitamins, minerals, etc. currently found in health food stores have anything to do with the fact that this is now a 35+ billion dollar loophole the pharmaceuticals would rather see "in their pockets" as they line the pockets of politicians who would endorse such legislation under the guise of "protecting the public"?

I find it rather odd that the government would push to regulate these basics to health when it has completely failed to regulate the use of known toxins such as mercury and aluminum – and has indeed pushed for the "fortification" of our diets with the addition of iron to so many products. How is it that the FDA wants to regulate vitamins, minerals and other supplements that have been available for decades to the general public yet it fails to demand long-term studies on most pharmaceutical products (i.e., many "new drugs" are approved on trials lasting as little as six month – indeed – some on trials lasting only a few weeks).

Does something seem a little "backwards" at the Failing In Duties Administration? You would almost think they are doing it on purpose to make people sick – just my humble opinion of course! How can this organization be so incompetent in so many critical areas?

Given this incompetence at the CDC/FDA/Pharmaceuticals when it came to so many of "the basics" in these issues, as I parent, I feel I could no longer depend on these organizations to tell me the truth – I would have to seek the truth for myself.

What can I say? I no longer trust "their expertise" and/or motives. Actually, when it comes to these organizations, I now expect lies!

Like many parents, I now spent countless hours in research into these issues in order to "break the code" and "put pieces in place" not only for my son, but for myself, for other children and other families. More and more parents are now joining in the hunt for answers to their children's problems. With so many more eyes doing research, the answers would come at a much faster pace - of that I am absolutely sure – but likewise, I am certain that the picture revealed by this research will be a very nasty one indeed!

As stated earlier, I could go on a LONG time with some of these issues. Suffice it to say in closing, however, that, in my opinion, given all of the above and especially the fact that insulin is known to cause a rapid uptake of iron by fat cells [20] and given we store toxins in fat:

I can only conclude that insulin - a hormone known to impact so many metals in the human body - may play a critical role in metal detoxification – a role that until now may have been completely missed by "the medical establishment", the FDA, the CDC and the pharmaceuticals in their ever-amazing incompetence! I also very much suspect that the pancreas may also play a critical role in actually rejuvenating many functions/parts in the human body via its role in modulating "healing sugars" such as glucose and why it is now being found to impact so many functions in the human body (sight, hearing, mental fitness, etc.). Perhaps the pancreas will one day come to be known as a "healing organ".

UPDATE APRIL 2006

Insulin shown to induce renewed expression of some inactive genes... something that may once again indicate that insulin has a "healing function" in the human body! Insulin may not only play a role in metal detoxification but also in actually acting as a rejuvenating organ for the human body - overall!

Perhaps one of the most interesting comments I wanted to share was this comment as it related to insulin... a comment I had failed to notice earlier when I had read an article by Perrine, Greene and Faller entitled: Delay in Fetal Globin Switch In Infants Of Diabetic Mothers, N Engl J Med., 1985, Feb 7:312(6): 334-8, http://content.nejm.org/cgi/content/abstract/312/6/334 , that stated:

"Since insulin has recently been shown to induce renewed expression of some inactive genes... "[39]

Could this help explain what we see in "chromosome 21" in Down Syndrome (DS)... that "extra chromosome"... did it have to be made new/again in the unborn child because the original one was too damaged? Remember... chromosome 21 is also associated with beta amyloid... what is now being shown by Glenda Bishop's work to be protective against oxidative stress due to

iron... and thus, that "beta amyloid" is not the "cause" of Alzheimer's! Perhaps that extra chromosome 21 is what allowed that child to live... whereas so many others may be dying (i.e., miscarriages due to metal toxicity). Also keep in mind... a child with DS is also more likely to have autism, diabetes and leukemia (more on that in the insulin paper)... all things very much tied to metal toxicity! Also remember - amyloid plaques are found in the pancreas of persons with type II diabetes... would make sense if indeed these plaques are protective against oxidative stress due to iron given iron accumulates preferentially in the beta cells of the pancreas (again, refer to insulin paper for more on that). For more on this issue, see the more detailed UPDATES to this paper! END OF UPDATE APRIL 2006

For those of you who think "I'm rather harsh" on these organizations, well… sit back… and then close your eyes and consider all the lives that have been either destroyed and/or devastated as a result of "the expertise" in these organizations… maybe then you will begin to have a minute understanding of what it is like to feel so completely betrayed by a "system" you once so trusted with the life of your child – only to find out that it is that same "system" you put your trust in that is responsible for hurting so many children and adults.

Autism… schizophrenia… Alzheimer's… Down Syndrome… diabetes… cancer… to name but a few disorders now being tied to metal toxicity…

These are all very devastating disorders and disorders that are now experiencing tremendous explosions in terms of the number of those afflicted.

Personally, yes, I can still find it in my heart to forgive those involved in this healthcare fiasco – but never will I stop questioning them and – never again - will I trust them!

"Blind trust was mistake number 1… and a costly one at that!"

Never again would I trust in man so blindly!

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This paper is dedicated to my sister-in-law, Chris...

NOTE: References indicate where information/facts were taken. They may not indicate a direct quote but rather just reference a critical fact. Direct quotes are indicated in this document. I've provided as many links to articles as possible for those further wanting to investigate these issues. I will continue adding to this article under the UPDATES link provided at the top of this page.

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For it is written, [a]As I Live Saith The Lord, Every Knee Shall Bow To Me, And Every Tongue Shall Confess To God."

Romans 14:11

And behold, I come quickly… to give every man according as his work shall be.
Revelation 22:12

This work I give you for the glory of my Lord and Savior, Jesus Christ.

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