

Interview with Dr. Kenneth P. Stoller: Hyperbaric oxygen therapy (HBOT), Autism, Aspartame and Mercury

Kenneth P. Stoller^a, MD, FAAP and Teri Small^b

^a International Hyperbaric Medical Association
404 Brunn School Rd., #D
Santa Fe, NM 87505
Phone: +1 505 955 8560
Email: info@hbotnm.com

^b AutismOne Radio
1816 Houston Ave.
Fullerton, CA 92833 USA
Email: tsmall@autismone.org
Website: www.autismone.org

Abstract

This transcript is of an interview by Teri Small of AutismOne Radio recorded in March of 2006, featuring KP Stoller, MD. Dr. Stoller reviews the history and science of hyperbaric oxygen therapy and its ability to create mitochondrial biogenesis. This therapy is critical to neuro-rehabilitation and the treatment of autism and other injuries. The nuances of pressure, oxygen dosing, SPECT scans and treatment protocols are explained along with the basic stratagem of biomedical intervention in the treatment of autism. Dr Stoller also gives an in-depth explanation of the politics and the science involved in the **Thimerosal** - autism controversy. Politics and science are inseparable in this controversy and have made it so difficult to change policy with regards to the removal of Thimerosal from vaccines. Dr. Stoller implicates the pharma controlled federal health agencies in this the largest preventable public health disaster in history. The Thimerosal scandal is even better understood after Dr. Stoller reviews the bizarre approval by the FDA of **aspartame**, which had previously been classified as a potential chemical warfare agent by the military. Dispelling myths about its safety, the cancer-causing molecule that has been shrouded in malicious disinformation is revealed for the neurotoxic poison it is. The folly surrounding its ubiquitous presence in the human food chain was forced upon humanity for greed alone. Never have so many been poisoned in the history of this planet as a result of an unholy alliance between corporation and state. Never has it been so important for the public to wake to their responsibilities concerning these issues and take back their power.

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Dr. Kenneth Stoller, Medical Director of the Hyperbaric Medical Center of New Mexico and the Hyperbaric Oxygen Clinic of Sacramento, is President of the International Hyperbaric Medical Association, a fellow of the American Academy of Pediatrics, a Diplomat of the American Board of Pediatrics and a Diplomat of the American Board of Hyperbaric Medicine. He was a University of California President's undergraduate fellow in the UCLA Medical Center's Department of Anesthesiology and has two decades of clinical experience in pediatric medicine. He has served on both the injury prevention committee and the environmental hazards committee of the American Academy of Pediatrics.

Dr. Stoller, thank you for speaking with us.

You're welcome.

Dr. Stoller, why is oxygen considered medicine? How long has hyperbaric oxygen therapy or HBOT been in use as medicine?

Well, it's considered medicine because oxygen under pressure acts like a drug. It does things that it normally just doesn't do under normal atmospheric conditions. I suppose modern hyperbaric oxygen therapy got its start in 1937 when it was first used to treat the bends or decompression sickness that scuba divers get. In the 1950's it started being used, as the chambers were quite large, as the operating theaters for open heart surgery and were present in major research hospitals, such as Harvard on the East Coast and Good Samaritan (Los Angeles) on the West Coast.

What happened by the end of the 1960's was the cardiac bypass machine came online and the cardiothoracic surgeons lost interest in having hyperbaric operating theaters. Their loss of interest was a little premature because now we know one-third of all patients who use the heart-lung bypass machine will have permanent cognitive deficits. So that wasn't the perfect answer either.

It was really its use in scuba diving, treating divers who got decompression sickness, which kept it alive, although wound care started to come to the fore for hyperbaric oxygen therapy in the 1970's as well as the treatment of carbon monoxide poisoning. It wasn't really until the 1990's that, empirically, certain doctors were beginning to notice that people's mental abilities improved after certain injuries. Cerebral palsy patients started getting treated and here we are today with treating autism with hyperbaric oxygen therapy.

That's a very good detailed explanation. Thank you for that. So you've mentioned various conditions throughout the decades. Is there any overarching rule for when oxygen is indicated for use?

Well, oxygen is used therapeutically in the hyperbaric venue to treat hypoxic tissue or tissue that is not getting enough oxygen. So let's say you are a cancer patient and you received a lot of radiation therapy. The radiation will actually fry out the little microvasculature, the capillaries that feed certain tissues and hyperbaric oxygen is the only therapy that's known to be able to grow those little capillaries back into the oxygen starved tissue. Now it won't grow back a carotid artery or an aorta, but it will grow back those little capillaries. And that's important to

note because if it can grow back little capillaries, obviously the oxygen is signaling the DNA in our cells to cause growth to happen and that's how those little capillaries grow into damaged tissues.

Wow. That is really interesting. And how does inflammation relate to HBOT?

It is well known to those who are familiar with hyperbaric oxygen therapy that the hyperbaric oxygen will prevent re-perfusion injury. So if suddenly you restore blood flow to an injured limb, the damage that restored blood flow can cause is sometimes worse than the initial injury. White blood cells adhere to the damaged blood vessel walls and they start exploding, releasing all kinds of enzymes that aren't good for the healing process. And so the hyperbaric oxygen actually down regulates the re-perfusion injury, it down regulates a whole cascade of different enzymes and proteins that are involved in cell death and inflammation, so that's another aspect of what hyperbaric oxygen therapy can do, as well.

Wow. And what of what you just mentioned applies, if any, applies to autism?

The major thing that hyperbaric oxygen therapy can do in a brain injured patient, and I'm including autistic patients in that group, because whether a brain is poisoned by carbon monoxide, whether the neurons are injured by having gone through an episode where they weren't getting enough oxygen or whether there's heavy metal poisoning - if the neuron is still alive hyperbaric oxygen apparently can go into that cell and open up or revitalize the enzymes and the DNA in the mitochondria - mitochondrial biogenesis.

The mitochondria are these little energy organelles inside each cell and they supply energy, they take oxygen and sugars and turn that into energy (ATP) that the cell can use and there's a whole cascade of enzymes within those mitochondria and each mitochondria actually has it's own DNA. So hyperbaric oxygen is now known to be capable of turning those mitochondria back on and when they turn back on suddenly the neuron or the cell is now functioning at a much higher level. And in the case of the brain, you actually get re-coupling of blood flow back to those now more metabolically active neurons.

I'll say it again, wow. Does SPECT scan imaging of the brain bear any or all of this out?

Yes. SPECT (Single Photon Emission Computerized Tomography) scanning is a type of functional brain scan that directly measures blood flow and indirectly measures metabolic activity. There's a very high correlation between what one's SPECT scan looks like and how well one's brain is functioning. So, SPECT scanning can be used to document improved vascular function in a brain and improved metabolic activity. One thing that has been found is that a hyperbaric oxygen treatment in a brain that's never had hyperbaric oxygen - an injured brain, will create potentially dramatic changes in a SPECT scan done within two hours of that first treatment with hyperbaric oxygen, the SPECT scan will light up to the total potential that brain has

to heal, so there is prognostic value to SPECT imaging when used in this fashion with hyperbaric oxygen.

Of course you have to be able to coordinate the SPECT scanning with the first hyperbaric oxygen treatment. Now, SPECT scanning is an invasive procedure as it does require the injection of a radioactive tracer, so we have not found that a lot of parents like to use SPECT scanning to document the results of hyperbaric oxygen. If they don't have to prove something to a third party there isn't a strong need for the scan, it's not really something that has any therapeutic value, although it certainly has academic value. It may take 80 more treatments to permanently set in the changes that are seen in that post-first treatment SPECT scan.

Are there SPECT scans that have been done before and after that have borne out what you've just described—like SPECT scan as a prognosticator of what can set in after many treatments?

Yes, I haven't seen that done in the case of an autistic child, but certainly that scan-treat-scan protocol has been used many times before with brain injury.

Now, don't worry about reiterating if you've answered part of this question before, reiterating is fine, but might hyperbaric help mercury-injured children who are diagnosed with autism?

In the sense that mercury poisons the metabolic activity in the cells and numerous enzyme systems, hyperbaric oxygen, obviously, has the potential to bring those enzymes back online - to bring the cell activity back online. I think it's important to note that while you will see improvement in a brain that has been poisoned by mercury if that brain still has mercury there needs to be a detoxifying process ongoing. Otherwise the gains one gets with hyperbaric oxygen therapy might be lost. As the cells wake up and find themselves surrounded by the mercury that poisoned them in the first place they'll just get re-poisoned. So that has to be factored into the equation.

Well that sounds like a really important point and let's talk about that some more in a few minutes. But it sounds to me from what you're saying, and correct me if I'm wrong Dr. Stoller, that is there a relationship between mercury injury and mitochondrial dysfunction directly or indirectly and does any of this have anything to do with oxidative stress?

The mitochondria have several enzyme systems and obviously mercury can impact on enzyme systems outside the mitochondria as well including systems the helps the body make antioxidants, such as glutathione, and without these antioxidants there is oxidative stress. We know that hyperbaric oxygen therapy helps the mitochondria from animal models because we've treated those with mitochondrial disorders and seen that they respond very well to hyperbaric oxygen therapy. We know empirically that hyperbaric oxygen will heal damaged or poisoned mitochondria. Now oxidative stress is not the same as oxygen per se. Oxidative stress has to do with the fact that certain enzymes and chemicals are in an oxidized state and the more oxidization that takes place, the more metabolic stress

person experiences. It's like having a rusty bicycle instead of a nice well-oiled new bicycle.

The concern has been this: Will giving all that extra oxygen add to oxidative stress given that you are providing more oxygen and, by definition, free radicals are a form of oxygen? The answer is no. In fact you get a paradoxical decrease in free radical production or total free radicals with hyperbaric oxygen. The body itself generates the free radicals in damaged or oxygen starved tissues.

When you provide hyperbaric oxygen and you're increasing the blood flow into these damaged areas of the body you actually get a net decrease in free radicals because you're opening those areas up to blood flow and the body's antioxidants can clean them up. That's why we recommend that antioxidants be given with hyperbaric oxygen therapy—not to have them mop up the extra free radicals that the hyperbaric oxygen itself might create, but because we know hyperbaric oxygen opens up damaged areas of the body where free radicals have been generated—you have these extra antioxidants on board to help deal with that extra stress from releasing all these free radicals into the blood stream. (Don't confuse O₂ the molecule that give us life with O[•] the free radical that causes oxidative stress).

Well I'm glad you mentioned that, thank you. And to this point Dr. Stoller, just to clarify, the answers you've given us, have those been referring to high pressure hyperbaric oxygen therapy or mild or both?

Both.

Okay. Now, we're going to get back to something to which you eluded earlier. A lot of parents wonder whether hyperbaric should be done before chelation, after chelation, at the same time or if it matters at all—which it sounds like it does from what you said—and different practitioners have different opinions and more study is welcome. But what is your opinion in more detail and why?

Well, for practical matters where time and finances are limited, I think it's better to begin chelation or detoxifying—not all the ways of removing mercury have to deal with chelating agents per se. The process of removing mercury, if it's found to be present in higher amounts than it should be, needs to begin a little before hyperbaric oxygen therapy is started. Now, there's no reason why they can't both be started at the same time, but again because everyone's time and finances are limited you might have to do more treatments with hyperbaric oxygen therapy if you started them together than if you waited for some of the heavy metals to get pulled out of the body. There's no contraindication to starting them at the same time, but in my opinion it's better to have the hyperbaric oxygen initiated once the chelation is already underway.

Do you feel that there are cases of autism with comorbidity of cerebral palsy or birthing injuries involved?

Seven to 15% of the population is very susceptible to the poisoning of heavy metals they have been exposed to. Just statistically some of these children will have cerebral palsy and

receive a double benefit by getting treated with the hyperbaric oxygen therapy, but I don't think there is any other connection.

All right. And how effective might HBOT be if it's started months or years after the insult in these different conditions?

It can be very effective and I'll give you the example of the case that was the center of my article that I published last year in *Pediatrics* in treating fetal alcohol syndrome. That was a 15-year-old boy who made a remarkable recovery with hyperbaric oxygen therapy. Obviously 15 years is past the time that he was poisoned with alcohol, which itself poisons many of the same enzymes, such as methionine synthase, that mercury poisons.

In the case of autism, where you have or can have mercury deposited in the tissues in the central nervous system, the situation is not the same as with a fetal alcohol syndrome for the alcohol is not retained in the brain, but clearly it has been shown that mature brain injuries can respond to hyperbaric oxygen—years, if not decades after an injury.

Good. And, what is the difference between high and low pressure? What is meant by hyperbaric oxygen and hyperbaric air? Does hyperbaric oxygen mean 100% oxygen in a hard chamber and hyperbaric air mean what's now known as mild HBOT in a soft chamber?

Hyper, of course, just means “more” and baric means “pressure.” So you're getting more pressure. The soft cell chambers can get to about 1.27 atmospheres - an extra 0.27 atmospheres pressure and a cerebral palsy study that was done in Quebec several years ago showed that cerebral palsy children responded to just getting 1.3 atmospheres of compressed room air. This raised the partial pressure of oxygen enough to signal DNA.

No one has done a dosing study comparing 1.3 atmospheres of room air to 1.3 atmospheres of 100% oxygen, so we don't know if 100% oxygen is a little better or a lot better. Hopefully we'll have those answers in the not too distant future. This is probably the question I get asked the most. “Is my child getting the same benefit or would they get the same benefit from compressed room air?” And we really don't know that answer yet. Now my bias is you're probably getting a swifter recovery and potentially a more total recovery with 100% oxygen, but that's purely my bias. We have not done the dosing studies and don't have the answers to that yet.

Are you also talking about higher pressure versus lower pressure? Doesn't the amount of pressure make a difference?

It is all about pressure and different pressures are used for different conditions, true. Now we know that at 1.5 atmospheres appears to be the optimal pressure for brain metabolism and we know this by looking at glucose utilization and metabolic activity in the brain at that pressure. Many autistic children are receiving at a slightly lower pressure primarily because most of the autistic children are being treated in the soft shell chambers, which can only get to 1.27, assuming you're start at sea level pressure in the first place. So, that's why I've been talking about 1.3 atmospheres.

Now, if you're trying to treat an infected wound, if you're trying to treat a brown recluse spider bite, 1.3 atmospheres on pressurized room air probably won't help a lot, you need the deeper pressures, such as 2.4 atmospheres and 100% oxygen. And that would be the same for an acute carbon monoxide exposure as well. So, different pressures are used for different conditions but oxygen dosing studies are lacking. What I can tell you is that for neuro-rehabilitation the lower pressures have benefit. Are the lower pressures on less than 100% oxygen as effective as the same pressure with 100% oxygen or a slightly higher pressure with 100% oxygen? We don't have those answers yet, but again I think 100% oxygen will win that race.

Is there evidence to indicate that positive changes with hyperbaric air and hyperbaric oxygen persist after people stop receiving treatments?

The important point to remember is if you're treating an autistic child that may have mercury deposited in their central nervous system or even an Alzheimer's patient, as they probably represent the same subset of the population, you have to move out the toxic heavy metal or at least be in the process of having that heavy metal removed; otherwise, any potential gains in cognitive function may be lost to re-poisoning. That aside, we know, for example, the growth of new blood vessels into damaged tissues - once they migrate in - is permanent, that change does not disappear once you stop treating. We have empirically decided to treat brain injuries with a set of 40 treatments (when using 100% oxygen at 1.5 atmospheres) because many physicians have noticed if you stop at 20 let's say, you can get regression and it seems like that extra set of 20 treatments cements in the gains that happened in the first 20 treatments.

However, the number of times we treat a patient with other conditions is not as many as two sets of 40, which is the unofficial protocol for treating a brain injury at 1.5 atmospheres with 100% oxygen. So, yes the benefits are permanent, but each condition has its own set number of treatments that are involved. For example, a patient with osteoradionecrosis, damage to the jaw from radiation therapy, may only need 20 or 30 treatments total, but again that's not the case for a brain injury.

Does hyperbaric have any therapeutic benefit in so far as helping with detoxification?

Well, it certainly seems to. By opening up the circulation into damaged tissues that alone helps with the detoxification process and certainly by normalizing various enzyme systems it helps with the detoxification process because a metabolically healthy cell will be able to participate in the required chemical steps to detoxify.

And, are there any risks of hyperbarics in general and are both hard and soft chamber methods equally safe or risky?

The lower pressure you're being treated and the less oxygen you receive the less the risk is, but this is an exceedingly low risk procedure in the first place. Literally, you could live in an environment that was pressurized to 1.3 atmospheres, 24/7 and

there wouldn't be any risk to that. There is always too much of a good thing, so to say, and more isn't always better, especially in treating brain injury. The major side effect for getting treated with hyperbaric oxygen or hyperbaric air is trauma to the eardrum by not being able to equalize the pressure in one's middle ear. Now, for the most part, that's almost not even a requirement if you're only being pressurized to 1.27 atmospheres, but it certainly becomes more of an issue if you're getting pressurized to 1.5 atmospheres and above.

Is hyperbarics also used to help children with seizures?

If the seizure is caused by a brain injury it seems to help with seizure activity, but as we are finding out that covers a lot of territory. If trauma or a poisoning caused the seizure then hyperbaric oxygen therapy may help heal that brain.

I had heard that there was one seizure medication that was contraindicated to do HBOT if you were taking that particular seizure medication, do you remember the name of that?

No, there is not any seizure medicine that I know of that has that restriction.

So can you tell us about if there are ever pauses in hyperbaric treatment needed with the hard chambers at 100% oxygen or the soft chambers at a lesser amount of oxygen and if so for how long and after how many sessions? Does it depend on how you're wearing a mask or a hood?

After one has completed 40 treatments, we like to have a month break between that set and the next set of 40 treatments. In an adult patient with an old head injury, after 80 treatments, what you see is usually what you get and there's little point in treating beyond 80. With a fresh head injury or a fairly recent head injury I think it's reasonable to keep treating that patient as long as you're getting improvement - until you reach a clinical plateau.

When you're treating with the pressurized room air in a soft shell chamber, that's only going to 1.27 atmospheres, do you need to take breaks between sets or can you treat everyday? It is plausible one could treat every single day of the year at 1.27 atmospheres and be fine. You could live in a 1.27 atmosphere environment without any untoward effects. So it is my opinion one need not have a treatment holiday treating a child with 1.27 atmospheres of compressed room air, but no one has done a study to verify this. Every brain injury is different and this is a medical procedure that should be monitored to a greater or lesser degree by someone who has experience treating brain injuries with hyperbaric oxygen.

What about how many treatments are needed per week for it to be effective, or do you need to take breaks during the day if you're doing more than one session per day?

Again, not at 1.27 atmospheres of room air. If you're starting to increase the oxygen levels and accelerating the healing, which is what often takes place with families that own their own portable chambers, then you could potentially fatigue the

brain and you don't want to push it too fast and too hard. But I don't think one would run into that trouble at 1.27 atmospheres of room air.

Okay. You're saying room air; by room air you mean not 100%?

I'm talking about pressurizing the portable chamber or whatever chamber you're using with the oxygen that's in the atmosphere, normobaric conditions, 21% oxygen being compressed to 1.27.

Oh okay. That's pretty important. I'm glad I asked. And don't, some chambers have oxygen concentrators, which are an external machine; have we already taken this into account?

The portable soft chambers are not licensed to be used with external oxygen sources. Now that obviously isn't stopping people from using oxygen concentrators. And as they give you a little more oxygen one is now breathing the equivalent of oxygen in the 40 percentile rather than in the 20 percentile. It's still not 100% oxygen, but more oxygen than you would be getting with just compressed room air.

Okay well that's really important. Under those conditions, would people need to take breaks within the day if they're doing more than one session or after 40 hours?

Like I said, we don't have the answers to these questions, but when you start raising the oxygen concentration above what you would find in compressed normobaric oxygen room air you are pushing the brain a little faster and a little harder than you are with just using compressed room air and if you're doing that you have to be careful that you're not pushing it too fast and that's where breaks in therapy come in.

And I know that there are larger chambers, hard chambers, how many people are allowed in those?

They can be very large. Some of them can accommodate 16 people or more and those chambers are compressed with room air, but you get a special hood that pipes in 100% oxygen or you can get special facemasks that pipes 100% oxygen to you in those chambers.

What does it seem to you most children who have autism are using? What kind of a steel chamber? How many people fit in it? Do you always have a parent with you?

I would say that most of the children are being treated with hyperbaric air right now in the soft shell chambers and the largest is 32 inches in diameter, which can certainly accommodate a parent. The multi-place hard shell chambers can obviously accommodate more than one person. But the trend now is to go to hardshell chambers by the docs who started using softshell chambers because I think they see more dramatic results when they can use 100% oxygen.

That's fine. And do you think it's best for people to start their experience with hyperbaric oxygen in a clinic?

The position of the IHA, the International Hyperbaric Association and the IHMA, the International Hyperbaric Medical Association, is that treatments should be initiated under a physician's supervision. Many autistic children have subclinical seizures and because hyperbarics is really just one facet of treatment for an autistic child, it's all the more reason to be doing it under a physician's supervision, at least for the initial set of 40 treatments. When the oxygen dosing studies are done we may recommend that 100% oxygen is preferred over room air – we just can't say that as a certainty yet.

Well let's switch subjects now and talk about an area in which you have shown integrity and courage, protecting citizens from neurotoxicity due to Thimerosal or mercury toxicity in vaccines. Please tell us about your initiative in New Mexico for disclosure about mercury in the influenza vaccines.

The whole sorted story of the influenza vaccine is really disturbing because the powers that be at the CDC, in the vaccine division, and the NIH, in the infectious disease division, have long been aware of this link between the mercury preservative Thimerosal and the increased rate of neurodevelopmental disorders. There's no point in trying to convince them of this, even though they pretend or say there is no link. In the last three years during which time Thimerosal has been greatly reduced in the routine vaccines, we have seen—looking at the California data - the state that keeps some of the best statistics on the number of autistic children—a dramatic decline in the autism rate.

So here comes the CDC and the NIH pushing the flu vaccine into the routine vaccine schedule where 90% of the flu vaccine that was available in this current past season and for next season has Thimerosal in it. To reintroduce Thimerosal into the routine vaccine schedule, requiring any vaccine that contains Thimerosal to be given to children and pregnant women, is both pernicious and disturbing because it smacks of not only a cover-up - a desire to mask the data that's coming out showing that if you remove Thimerosal the autism rates drop, but by reintroducing Thimerosal you are consciously putting children at risk – this is unconscionable.

Yes. It's a good observation.

And if that's what's really going on and I wouldn't, in my opinion, put it past individuals like Dr. Fauci and Dr. Gerberding to do something like that, then this is truly evil, this is truly criminal. Certain divisions of our Federal health agencies seem to be completely under the control of the pharmaceutical companies and the World Health Organization. The CDC is not following its own rules in eliminating Thimerosal, therefore, it behooves each state individually to try to limit the exposure of Thimerosal to its citizens.

Some states have passed laws and some of these laws are better than others, but it's sending a message and it's educating people and that's really the point: people need to know that there is mercury in most of the flu vaccines and if they want a

flu vaccine they need to ask for one that's mercury-free. If they can't get a mercury-free flu vaccine then they need to know there are alternatives besides a flu vaccine to dealing with the flu. There are antiviral agents out there, Amantadine (1-aminoadamantane, sold as Symmetrel®), Rimantadine (brand name Flumadine), Tamiflu®, just to name three. If you're really concerned about getting the flu, you should have these on hand, but do not take a flu vaccine that has Thimerosal in it. If that message gets through, believe me, Thimerosal will come out of the flu vaccine.

Now the situation is quite complicated. The World Health Organization will only use a vaccine that is licensed in the United States. Multidose vaccines for DTaP or whatever are not licensed with a non-Thimerosal preservative in the United States and the World Health Organization won't use a vaccine in single-dose vials as it insists on using multidose vials. Therefore, the World Health Organization, instead of trying to get or encourage non-Thimerosal preservative multidose vials to be licensed in the United States, has been encouraging Thimerosal use.

It's all about money because right now if a pharmaceutical company wants to submit an already licensed multidose vaccine for approval that has phenol, let's say in it, instead of Thimerosal, it has to submit a completely new drug application. And so we're talking 10's of millions of dollars to do this (when you include the clinical trials) for something they already have licensed and they don't want to spend the money. And maybe they're justified not wanting to spend the money. I have made the suggestion with a colleague of mine, Dr. William Duncan in Washington, DC, (his doctorate is in political science and economics, and he did health care policy in Congress for 10 years.) that perhaps a bill can be introduced that would allow pharmaceutical companies to have the fee waived for new drug applications if the purpose of that application is to merely substitute out Thimerosal for another non-mercury preservative and eliminate the requirement to go through new clinical trails just for substituting out Thimerosal – a known neurotoxin that has never undergone safety testing and is worthless as a preservative.

Something to protect the public's health?

Yes, and hopefully that will be the incentive to have non-Thimerosal multidose vaccines so the World Health Organization can have what it wants, which are cheap multidose vials and a vaccine that's licensed in the United States as well.

Now, the Federal government in general does not like to have the states ban something they approve. They jealously guard the commerce clause. Enough states have put limitations on the use of Thimerosal laden flu vaccine to make them concerned. However, this is a case where the states are clearly caught between two different sets of regulations and this should be exploited.

The Federal government is putting states into a no-win situation. They are demanding the states accept sources of mercury pollution injected into humans, yet they want mercury out of the environment. They ban asbestos when mercury is many times more toxic. (Mercury is toxic at parts per billion. Most toxins are toxic at parts per million.) States are being held re-

sponsible for mercury in the environment but if the Feds move against the states trying to remove it, they will be removing the authority to deal with what they are being held responsible for.

The ATSDR database from CDC has the clear science that indicates mercury causes neurological disorders, stroke, cancer, and heart disease. The EPA is mandating water, sewage and industrial emissions be scrubbed for mercury. Right now one in six women in America of child bearing age are toxic for mercury, according to the EPA report prepared by the CDC from two years ago.

It is not just in the human vaccines. Mercury is in virtually every animal vaccine, and is in dental fillings.

Fortunately the states can do two things. They can ban the product within the state, as some states have done to date to a greater or lesser degree, so even if the commerce clause is exercised, the message will have been sent. (In the event of a lawsuit, these states would be asked to be a party to an amicus brief.)

Second, they can refuse to purchase vaccines with state money that contain mercury, and they can mandate dental fillings, especially for children and women of child bearing age under state Medicaid, be mercury-free. This has the advantage of being something outside of the commerce clause. It is within a state's prerogative, just as it is within the Federal government's prerogative, to spend money on things the state wants to spend money on, with appropriate restrictions set by that level of government.

In addition, though many in Washington have forgotten this, health, welfare and morals are primarily the responsibility of the state governments (otherwise known as the "Police Powers.") The Federal government actually has no authority under the constitution in this area, but has usurped authority in this area over the years, sometimes with good reason, and other times causing untold turmoil. Therefore protecting the health of the residents of the state is a state responsibility.

Remember, the EPA is demanding mercury be removed. There is no better removal method than preventing its introduction in the first place.

Finally, I'm viewing with alarm the reports I'm seeing that we are now graduating more girls than boys from college. Fewer boys are even entering college. This huge influx of mercury in vaccines started in the 1980's. That first cohort is now graduating from college. Those who believe that the increase in autism is simply better diagnosis are missing the point (as well as being incredibly insulting to pediatricians and teachers everywhere.) We are importing engineers and doctors because we cannot grow our own, and it is not that they are simply becoming lawyers or Indian chiefs. ADD, ADHD, dyslexia and autism are simply a spectrum of disorders based on how much mercury a boy got, and it takes 4 times as much mercury to injure a female as it takes to injure a male because of the protective effect of estrogen. We've moved to a high-tech society that requires a college education to succeed and we've injured an entire generation of children. There is no longer a set of manufacturing jobs that support a family when a breadwinner has few skills. Those jobs have been exported where labor is "cheaper." THERE ARE NO OPTIONS FOR UNSKILLED MEN IN OUR SOCIETY! We are going to see a significant rise in our prison populations, which are already full of men

with neurological deficits. Up to 50% of males in the prison system have some time of neurological disorder or brain injury according to the US Bureau of Prisons own statistics. This is a welfare catastrophe just a few short years away.

We must stop the poisoning of the next generation and move quickly to treat those who are already injured.

When you're saying, Dr. Stoller, that only Thimerosal-containing DTaP is licensed in the United States are you referring to full load Thimerosal-containing vaccines or what's called trace amounts?

When children get the DTaP today, they're getting it from a single dose vial in the United States – some of the vaccines still have what is called “trace” amounts of Thimerosal, and in truth, there shouldn't be any – trace or otherwise. But the World Health Organization doesn't want to use single dose vials, they want to use multidose vials because it's more economical and it's easier to use and there's all kinds of transportation costs and space and who knows what else their bogus reasons are.

Multidose DTaP is only licensed in the United States with Thimerosal. Now, that's not what U.S. children are getting today, it's what they got in the 1980's & 1990's. They're getting the single dose vials today that have the reduced or eliminated amount of Thimerosal. But there is no single-dose vials for tetanus booster, just to give an example, which does contain Thimerosal in it – don't think Thimerosal is only in the flu vaccine. So that's what the World Health Organization want to use and has, in so doing, knowingly exported autism all over the world.

So does this mean that children in other countries are getting Thimerosal-containing vaccines?

Yes, we've exported autism now from Argentina to Zimbabwe, we're talking millions of children being disabled and wars have been fought for much less than this. So this has been a very foolish enterprise. There's been a tremendous lack of accountability, a tremendous avoidance of culpability, and the irrational continued promotion and use of this poison at the cost of the neurocognitive ability and health of millions of children across the world.

Yes. And, let's get back the influenza vaccine in New Mexico for a moment. Were you trying to get a black box warning put on?

That is still in process with the Board of Pharmacy. I have several things going at once. I have filed a complaint with the Board of Pharmacy saying that the use of Thimerosal in vaccines is a violation of the New Mexico Drug Act, a violation of several Federal laws including the U.S. Constitution. Thimerosal is listed as an ingredient in vaccines and biologics without any warning or reference to its true nature. This is a labeling violation if nothing else.

Could you reiterate for our listeners what kinds of adverse physiological reactions thimerosal derived mercury can cause such as to biochemistry and behavior?

Well, I'm not a chemistry professor like Dr. Boyd Haley, but I can tell you organic mercury is poison to skin and brain tissues at levels below 0.02 parts per million (0.02 µg per g [mL]), that Thimerosal, like the other ethylmercury compounds (ethylmercury hydroxide and ethylmercury chloride) seems to preferentially accumulate in the brain and other “fatty” tissues, immune systems' mercury poison at levels of 0.03 parts per million that triggers abnormal immune-systems responses including persistent immune and autoimmune dysfunction, it is a teratogen (mutagen, cancer-causing agent) with proven severe teratogenic effects at single doses at or near the 1-ppm level (in fertilized eggs), repeated low-ppm doses (in rats; where not only were the rats' offspring malformed but the offspring of those whose mothers were Thimerosal-poisoned also gave birth to affected pups. Mercury is found in most Thimerosal-preserved vaccines at a nominal level of 100 ppm (a level 5,000 times higher than the level shown to exhibit short-term toxicity to living cells and tissues). Since babies painted with small amounts of 1,000-ppm Merthiolate solutions have been severely poisoned and have died (in 10 of the 13 cases reported in a 1970's study), it should be obvious that there is no 10-fold safety margin for Thimerosal at the 100-ppm level in vaccine formulations.

Of course this information is not found printed in any package insert or in the PDR for any of the vaccine or biologics that contain Thimerosal. So that's the basis of my complaint with the Board of Pharmacy in New Mexico and I'm still waiting for their answer. I've also filed a petition to amend their administrative rules making it impossible to include known neurotoxins or carcinogens as adulterants in medicines that are used on humans.

Yes that seems wise because if one thing's taken out what's to prevent another thing from going in?

The third thing that we tried to do was pass a law limiting the use of Thimerosal in flu vaccine but that died on the house floor, although the Department of Health has agreed to voluntarily ordering enough mercury-free flu vaccine for children under eight and pregnant women. One can only hope that the consciousness of healthcare givers will be raised high enough so that they will offer these mercury-free flu vaccines to pregnant women and children under eight.

Well, Dr. Stoller, doesn't Thimerosal mess up things like synthesis of Methyl B-12, dopamine, methylation, glutathione, things like that?

Yes. All true. Thimerosal in levels found after vaccination inhibit methionine synthase by 50%. Normal function of methionine synthase is crucial in biochemical steps necessary for brain development, attention and production of glutathione, an important mercury-detoxifying agent. Autistic children have significantly decreased levels of reduced glutathione as well.

Anything else?

It's the second most deadly element in nature - plutonium being the first. Again, it has a lot of deleterious effects and a lot

of the rheumatological disorders, autoimmune disorders and even the asthma epidemic are probably attributable to heavy metal sensitivity, that is, mercury and lead. Perhaps you're aware that Dan Olmstead of UPI traced down the first reported case of autism who as a 12-year-old boy diagnosed around 1945. He was later diagnosed with rheumatoid arthritis and was treated with gold salts and his autism went away.

Gold will chelate mercury. I'm not recommending that anyone start taking gold salts to chelate mercury, as they have their own side effects, but it just shows you - he had rheumatoid arthritis, an "autoimmune disease" unrelated in the textbooks to heavy metal poisoning, and yet both his rheumatoid arthritis and his autism were treated by something that will chelate mercury. So there are undoubtedly many, many disorders that people suffer from that are related to being sensitive to too much heavy metal exposure. Autistic children may just be the visible part of a very large iceberg.

So if you needed to suggest an order of operations for treatment for a mercury toxic child with a diagnosis of autism what would it be?

Are you saying we already have established that we have a body burden of mercury?

You have a mercury toxic child with a diagnosis of autism. So do you have some steps and that you would do to treat them and what order would you put them in?

First, appreciate that heavy metal body burden isn't even recognized as a serious medical problem. This is part of environmental medicine which, for the most part, is not taught in medical schools. I just wanted to make that clear. Now, there is no formula or protocol that will fit every child, but in general it is important to replace or supplement parts of the methionine synthase cycle that we know are depleted in autistic children, chief among these is methyl B-12, sometimes extra folic acid helps as well, but it is also important that we introduce these interventions one at a time. Many of these children have inflammatory issues in their gut - many autistic children have chronic diarrhea or chronic constipation and tremendous overgrowth of yeast and all this has to be handled. Some have viral infections - the MMR vaccine is a live virus and when it is given to someone with a compromised immune system the virus does not just go away, and in the case of autistic children with inflamed intestines the measles virus takes up residence in their gut where it sets off a whole new set of problems. So it can get very complicated in treating the various nuances that any one child can bring to the table.

There are various methods for detoxifying and chelating. Now, probably the safest way to get mercury out of one's brain is not really something that we can offer to autistic children, and that is to administer intravenous high dose vitamin C and I'm talking at levels of 0.75 grams per kilogram and that causes a mass chemical reaction to take place where the vitamin C actually donates an electron to the 2+ positive mercury, turns into 1+ and you're able to excrete that in your urine and feces.

As you might imagine there aren't too many autistic children that can tolerate lying in a chair for an hour while they're get-

ting high dose vitamin C plus or minus a glutathione push. Nevertheless that is not a chelating process; you're causing a chemical reaction to take place, but it's very nontoxic and it will work. Some parents have used saunas which are not available or practical for everyone, but most use agents like DMSA that can be taken orally or used transdermally and these can be used for many autistic children.

DMSA is actually a FDA approved chelating agent for lead and lead is often an accompanying co-toxin with the mercury. In fact, lead makes the mercury ten times more toxic than it normally would be. So it's good to have something you know is going to pull out lead as well. That often has to be factored in. One can't take DMSA orally if you're either sensitive to it or have a tremendous inflammatory bowel situation going on and yeast overgrowth. So what problem gets handled first is often again complicated. Once biomedical intervention has started would be a good time to add in the hyperbaric oxygen therapy and that could happen as soon as two weeks have gone into the process. You don't have to necessarily wait two years to start the hyperbaric oxygen therapy. You want to have a biomedical intervention game plan going on and then add in the hyperbaric oxygen therapy which assists the healing of so many systems in the human body.

So, tell me if I have this right and please do not feel shy about correcting me if I don't have these in the right order. You mentioned Methyl B-12 and folic acid and treating inflammatory gut issues, yeast, you mentioned high dose IV vitamin C, I think you may have mentioned it with glutathione, then you mentioned hyperbaric oxygen therapy. Do I have those in the right order?

Right, and there is so much more that a full interview dedicated to this one topic alone would still be inadequate to cover the subject. Some children need digestive enzymes and probiotics, and now there is an oral glutathione that seems to be very effective. It's a liposomal glutathione that you can take orally for the first time. The active ingredient in tumeric, curcumin, is a PPARs agonist and may have a future in helping treat autistic children who sometimes have both gut and brain inflammation.

There are other drugs such as Actos[®] (generic name, Pioglitazone hydrochloride) and Avandia[®] (rosiglitazone maleate) that are used in controlling type II diabetes that also are PPARs agonists, but they also can mess a little with your carbohydrate metabolism. So, by far the safest thing to use as a PPARs agonist is tumeric or curcumin to push the immune system away from that allergic autoimmune inflammatory pathway, which is called the T₂ pathway, into the T₁ pathway.

And for all of this Dr. Stoller do you recommend regular medical monitoring, laboratory tests and oversight by a physician who knows the real underlying reasons for the autism epidemic and person's unique child?

Definitely having a physician who is very up to date, who goes to most of the conferences, who is in touch with the latest developments as things literally change 20-30% every six months or so, it seems to me, is very important.

Now, we try to do as little lab work as possible, but some lab work is necessary. It's a good idea if you have a gut that's overgrown with *candida* to know what drug that *candida* is sensitive to. There's no point in giving Diflucan® (fluconazole) or Nystatin if that yeast is resistant to it. So certainly testing is very helpful but by the history you can sometimes get a good idea of whether that child potentially has a viral overload situation or a leaky gut. In my practice, I try to minimize the number of tests, especially because some of these specialized tests are not covered by people's insurances anyway.

I'd much rather money be used for treatment rather than for the diagnostics because if you're working with a physician that is very familiar with this condition they usually have a very good idea based on the history alone what that child might need without necessarily having to run every possible (nonspecific) test on every single patient.

Oh I see. I wasn't clear enough. By regular monitoring and lab tests I meant things particularly during chelation like CBC, chem screen, packed red cells?

Whenever you're using a potent chemical, if that's how you're treating the child, and again, one could be using chlor-ella, milk thistle and cilantro for detoxifying, and these natural remedies will slowly detoxify that child's body as well – but if you're going the route of using a potent chelating agent then following that child with the appropriate labs is called for. Yes, certainly these things are called for on an individual basis.

Well Dr. Stoller, finally another issue that seems important to you is the use of aspartame or rather to not use aspartame. Please tell us what aspartame is, why it is harmful and what you're trying to do to protect citizens?

Aspartame was discovered by accident in 1965 by a chemist at G. D. Searle researching an ulcer drug and it was found to be 180 times as sweet as sugar without having any calories. And soon thereafter the Pentagon classified it as a chemical warfare agent because of its molecular chemistry - one molecule of aspartic acid to one molecule of methanol to one molecule of phenylalanine. That's over 30% of free methyl alcohol. Furthermore the whole molecule breaks down to diketopiperazine, a known brain carcinogen.

Now, one could say, "what's the big deal," after all these chemicals exist in other foods and often in greater amounts – why pick on aspartame?

When you consume aspartame, you are not obtaining any other amino acids...which are present in all proteins (aspartame is not a protein) that block phenylalanine's ability to pass from the blood to the brain. Even a small increase in blood phenylalanine will cause a very large increase in brain phenylalanine. NO OTHER FOOD THAT MANKIND HAS EVER EATEN CAUSES THE CHANGES IN BRAIN CHEMISTRY THAT ASPARTAME CREATES. It lowers the seizure threshold and depletes serotonin.

Phenylalanine is unique in terms of brain metabolism and neurotransmitter function. It has the highest affinity for crossing the blood-brain barrier of all the circulating amino acids. Phenylalanine is an essential amino acid, the daily consumption

of which is required to maintain life. However, Dr. Richard J. Wurtman, Professor of Neuroendocrine Regulation at the Massachusetts Institute of Technology, presented data to the FDA demonstrating that in humans that feeding of a carbohydrate with aspartame significantly enhances aspartame's positive effect on plasma and brain phenylalanine and tyrosine levels. There are sound scientific reasons to believe that increasing the brain levels of these large neutral amino acids could affect the synthesis of neurotransmitters and in turn affect bodily functions controlled by the autonomic nervous system (e.g., blood pressure). The proven ability of aspartame to inhibit the glucose-induced release of serotonin within the brain may also affect behaviors, such as satiety and sleep.

Aspartic acid under conditions of excess absorption has caused endocrine disorders in mammals with markedly elevated plasma levels of luteinizing hormone and testosterone in the rat and release of pituitary gonadotropins and prolactin in the rhesus monkey. The amount of luteinizing hormone in the blood is a major determinant of menstrual cycling in the human female.

And then there is methanol, of course, is wood alcohol. Everyone knows that's the stuff that makes you go blind, When diet sodas and soft drinks, sweetened with aspartame, are used to replace fluid loss during exercise and physical exertion in hot climates, the intake of methanol can exceed 250 mg/day or 32 times the Environmental Protection Agency's recommended limit of consumption for this cumulative toxin. Again, what's the big deal as there is just as much or more methanol in some alcoholic beverages, but understand that ethanol, the alcohol you expect to find in an alcoholic beverage, inhibits the metabolism of methanol and allows the body time for clearance of the methanol through the lungs and kidneys. Methanol eventually turns into formaldehyde in our bodies and causes irreversible denaturation of DNA that could interfere with DNA replication and results in mutation – it isn't called embalming fluid for nothing.

Now, the FDA in the 1970's rejected over and over again the application for the use of aspartame in commercial products and in fact had launched a suit against G. D. Searle for providing false research data to them. But suddenly a new administration came to town and the man who had been president of G. D. Searle was now the White House Chief of Staff and he hand picked a person whose sole purpose was to overrule all the FDA's internal agency's recommendations and approve aspartame for use and that's exactly what Arthur Hull Hayes, Jr. did in 1982-1983.

But didn't you say it had already been classified as a chemical warfare agent?

The Pentagon doesn't deal with the public, but the FDA is supposed to protect the public. The FDA allows a lower safety margin only when evidence is submitted which justifies use of a different safety factor. No such evidence has ever been submitted to the FDA for methanol or aspartame. Thus, not only has the FDA's requirements for acute toxicity not been met, but also, no demonstration of chronic safety has been made. The fact that methyl alcohol appears in other natural food products increases greatly the danger of chronic toxicity developing by

adding another unnatural source of this dangerous cumulative toxin to the food system.

This neurotoxic, known carcinogenic substance, as revealed by data going back to the 1970's from studies in laboratory animals, was approved for human use, and the 1980's saw a huge explosion in the number of brain cancers.

Of course the coincidence of the dates between the rise of the autism epidemic and the introduction and establishment of aspartame in consumer products mirrors each other. Now I'm not saying aspartame caused the autism epidemic, but it was certainly a potential cofactor in it, a complication perhaps in certain cases. So we have a situation where for purely corporate greed, a known poison was added to consumer use and people have no idea what this stuff is, or what it can do. Again, Thimerosal isn't the only deleterious substance which was allowed to have been kept on the market when we obviously had information to know better than to have had these substances on the market.

There are others. I mean the list can get long. There are just things that we consume that do not benefit our health and that are deleterious to our health. People may find this shocking, but when you fill up your glass with tap water, you're helping dispose of chemical industry waste in some cities if that city is fluoridating its water supply. The fluoride is often industrial waste. Fluoride itself is both another neurotoxin and a carcinogen and should not be feed to us or put in toothpaste. How many know there is enough fluoride in a tube of toothpaste to kill a 20-pound child? So we are unconsciously consuming things that are poisons and, you know, the greatest advances in public health have been in cleaning up the water supply and minimizing our exposures to poisonous and infectious agents.

So here we are in the 21st century, you wouldn't think that we are deliberately, in many cases, being exposed to poisons so that certain corporations or vested interests can benefit from monetarily one way or another, but that's exactly what is happening and people have to become more conscious of this. If you've never been exposed to this information before, it's a lot to process all at once and I certainly sympathize with people going "well breathing the air is..., you know, what's he going to say next?"

Well we do have to become more conscious before we all become unconscious.

True, true. And again, follow the money. Who's benefiting from this? It's a very difficult situation where the opportunity for correcting these mistakes often gets passed by and if we're not correcting the mistakes, we're covering up the mistakes and the hole we dig for the human species gets deeper. What is going to have to happen in many cases is that some of our Federal health agencies are just going to have to be rebuilt from the ground up.

These agencies are worthless. When I met with the Governor of New Mexico on the 23rd of December I can't tell you how it warmed my heart to hear him say, "The FDA does nothing at all that states need to take their power back in this arena." So it's not a secret that our federal health agencies have been completely compromised. The question is how do we slowly educate people to realize that they need to take primary responsibility for what they put in their bodies regardless of whose seal of approval is on something? And it's a lot of responsibility especially if you assume everyone has an eighth grade education if that, it's a lot of responsibility for people.

I don't think every single person has to be familiar with all the facts, as much as reaching a critical mass or the proverbial "hundredth monkey," even though that's probably an urban legend. When enough people understand the problem and say "this is not what I want," then you will have a situation where that the society makes an agreement and that agreement will shift the reality in which we live. Now, if you approach these problems in a very linear way, that is, how do you go up against "city hall?" How do you go up against multinational corporations that own the media? You might as well give up. That's the linear way of approaching it. You have to approach it in a nonlinear fashion and, and just trust that when enough people learn about these problems the system will change and the reality in which we're having to live in right now will change.

Yes. I guess we all have to either start thinking out of the box or we're all soon going to be in one.

And who benefits from that? So, it's quite a tangled web.

Well Dr. Stoller thank you for taking a stand and placing as your special interest the health of children and adults. We need more citizens like you.