

Preparing for the Next Baby

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Any mother who has had an autistic child should reasonably want to know how to prepare her body to become a healthy garden ready to receive the seed of her next child.

We are coming to understand that autism is a neurological expression of the impact of environmental toxins on a genetically susceptible individual. It manifests when a child, who is genetically more susceptible to certain toxins, is exposed to those toxic substances at a vulnerable period in his or her life. If this concept is true, then we can prevent this disorder by identifying and avoiding such exposure. Moreover, it is important to recognize that these children are genetically susceptible because they have inherited genes from each of their parents that are less protective with regard to toxic exposure. It is therefore reasonable that both parents, to a greater or lesser extent, are also genetically susceptible to diseases related to toxic burden.

We live in a very toxic world. As a result of the industrialization of manufacturing and the chemicalization of agriculture and the pharmaceuticalization of healthcare we have exposed our bodies and our children to a greater burden of toxic substances than any generation before. We have yet to see the overall long-term results of this drama but we are already in the midst of one of its early tragedies. We have seen such an explosion in the numbers of children developing autism spectrum disorders that it can be considered nothing less than a travesty.

When we review histories from ASD children, we see a remarkably high family history of cardiovascular diseases, cancers, neuro-degenerative diseases (such as Alzheimer and Parkinson's disease), and allergic and autoimmune diseases in prior generations. Parents of ASD children have also been observed to have a high frequency of fibromyalgia, fatigue, joint and muscle pains, headaches and related symptoms. When tested, they are found to be at higher risk for the most common diseases of aging.

In this paper we will explore the toxins of our world and discuss approaches to avoiding and eliminating these substances for the health of our next child and for the short term and long term health of ourselves, the parents.

It's a Mad Mad Mad Mad World

Never before in the history of evolution have the developing fetuses of any species been exposed to so many chemicals and toxins. The US EPA estimates there are over 87,000 chemicals currently in widespread use. Of these, 62,000 are molecules small enough to cross cell membranes. Fifteen thousand are produced in annual quantities of over 10,000 pounds (that's five tons per year), and some are produced in tens of millions of pounds per year.

There are over 600 actively used pesticides, none of which have been adequately tested. Even after they are found to be unsafe they are not necessarily excluded from use. An example is DDT, which, while banned in this country, is still exported by the American manufacturers for use in other countries where the spraying precautions are often ignored. In addition to causing unconscionable harm to the world's poorest people, the produce may then be exported to the US for routine consumption without any warning labels required.

Our drinking water is "purified" by chlorination to kill the bacteria and then aluminum is added to precipitate out aluminum chloride sludge. In most communities there is no monitoring of aluminum levels in drinking water. As a result a 20-minute bath may allow more aluminum absorption through the skin than would be absorbed by drinking the water all day long. Showering exposes to less aluminum, but more organochlorines may be absorbed by inhalation than from a typical day of pesticide spraying. Some communities allow more chlorine in their drinking water than in their pools.

We are bombarded by chemicals in our cosmetics and cleaning fluids. We spray our homes with insecticides and use fungicides on our household plants. We have veritable toxic bombs under our kitchen sinks. Use of these chemicals in our homes creates toxic exposures that are often worse than a typical workplace.

We spray our lawns with toxic chemicals and then send our children out to play. We cook our food in plastic, releasing carcinogenic, xenobiotic estrogens and store leftovers in aluminum foil.

We smoke. (This is arguably the single most important individually modifiable health risk.) We don't exercise. For many Americans looking for the remote control is their major daily exercise. We don't even talk. Current statistics show that a typical American spends 3-4 hours a day watching TV and only 3-4 minutes per day talking to family members.

Our diets are deficient in minerals and important nutrients. The FDA sets guidelines for the "recommended daily allowance" for most nutrients. Most nutritionists would argue that these guidelines are terribly low for many, if not all, of the nutrients listed since they were set to prevent advanced expressions of illness in average healthy people. They were not set to prevent mild expressions of deficiency in healthy people and were certainly not set to prevent mild expressions of deficiency in unhealthy people, nor to maximize health benefits of these various nutrients in healthy or unhealthy people. But even give these very low numbers for the RDA, according to our own FDA, 70% of Americans don't even eat the RDA for the basic nutrients.

Americans consume an average of 140 pounds of sugar per person every year. That is nearly ½ pound per person per day! Compare this to an average of 12 pounds per person per year in the 1800's and it is easy to see how things have changed in recent years. We consume 23 gallons of ice cream per person per year or 1/2 gallon per person each week and 15 billion gallons of soda annually which comes to 1 gallon per person per week. The food we purchase may be full of undeclared chemicals. There are over 3,000 chemicals in our food supply. Over 10,000 chemicals are used as food additives. Only a few of these have been adequately tested for toxic effects and essentially none of them have been tested in combinations. It is important to understand that any substance that is tolerated by itself may not be tolerated in the presence of other substances. Furthermore, any substance that is tolerated by one individual (or fetus) would not necessarily be tolerated by another.

So What About Mercury?

We have been concerned with the effect that mercury and, in particular thimerosal, plays in the onset of Autistic Spectrum Disorders (ASD). We know that not everyone is equally susceptible. We also need to know that the potential effects of mercury are not just ASD and, in particular, are not just neurological. Mercury is considered the most toxic, non-radioactive element on the planet. Once it gains access to the body it remains detectable in the blood stream for 3-6 weeks. As it leaves the blood it enters every organ and every cell and every subcellular organelle in the body.

This country alone releases 200 metric tons of mercury into the environment each year. This includes 40 tons from coal burning, 17 tons from fluorescent bulbs, along with 40-50 tons from medical and dental waste. Two hundred tons of mercury at 454 gm/lb comes to 181,600,000,000 mcg. If we divide this amongst 300 million Americans it would come to 605,332 mcg per person per year. This is not what each person is actually exposed to since the pollutant spreads throughout the environment. On the other hand we must recognize that higher living organisms bioaccumulate mercury, concentrating it 200,000 to 1 from the environment. This means that 1ppb mercury (1 mcg/kg) in the environment accumulates to 200,000 ppb (200,000 mcg/kg) in higher living organisms such as humans.

Although a safe level of mercury has never been identified, the US EPA recognizes that there is no option for total mercury avoidance. As a caution it recommends ingestion of no more than 0.1mcg of mercury per Kg body weight per day. Most fish have 0.2-0.3 mcg of mercury per gm of fish. Sharks, swordfish and tilefish have 1.0 mcg/gm. A typical 6 oz (170 gm) fish would therefore yield 42.5 mcg of mercury. In a typical 150-pound (70kg) person this would come to 0.46 mcg/kg of body weight. So this would be 4.6 days worth of mercury toxin. However if you ate the same amount of swordfish you would be getting 2.43 mcg/kg or 24.3 days worth of mercury.

That sounds pretty ominous but we still need to realize that fish is not even the major source of environmental mercury exposure. According to the World Health Organization "silver" amalgams may account for over 85%. The average "silver" filling weighs 1 gram and is 50-55% mercury by weight. It is 30% silver but not many of us would have bought into the offer if we were offered "mercury" amalgams so the

dental industry uses a euphemism. The amount of mercury in one average sized “silver” filling would cause a 10-acre lake to be closed to all swimming and fishing for at least a year. The American dental industry places over 100 million new amalgam fillings each year. One hundred million amalgams containing 50 million grams (or about 27.5 tons) of mercury are being placed into the mouths of patients every year. A typical amalgam with a 0.4cm surface releases about 17mcg mercury per day mostly as a result of chewing. If an average person has 8 amalgams, that would result in about 136 mcg of mercury being released as elemental mercury vapor. Of this 10-15% or about 17mcg would get absorbed every day on average for the next 70 years.

And a pregnant mother would also absorb 17mcg/day every day during a 270-day pregnancy. Should we not give serious concern to the 4590 mcg given to the mother-fetus unit over the more vulnerable 9-month gestation? Any dental work done during pregnancy, including dental cleanings, when amalgams are in the mouth, will dramatically increase mercury absorption by the mother. Mercury is bioconcentrated by the placenta during gestation and has been found to concentrate 8 fold in the fetus primarily in the liver and kidneys of fetuses and in the kidney and brains of infants, at levels that correlate with the number of dental amalgams in the mother.

A new amalgam will typically release mercury at an increased rate for the first several months. Studies demonstrate that more than 25% of the original mercury is gone from dental amalgams after the first five years. The rate of release increases after dental brushing, cleanings and during chewing. The level of mercury in the mouth after chewing is 15 fold greater in people with amalgams than in those without amalgams. Increased mouth mercury levels gradually fall back to baseline about 90 minutes after chewing stops. Many biologic dentists will measure mercury levels in the mouth before and after chewing gum for 1 minute. Normal chewing may cause mouth levels of mercury to rise above the levels considered safe by EPA for an industrial work place. People with amalgams may have 20-150 mcg per cubic meter (mcg/m³) of mercury vapor in their mouth after chewing. A level of 100 mcg/m³ in the mouth while chewing is 500 times the level considered safe by the EPA for workplace exposure. To put this in perspective we can note that before 1990, mercury was added to latex paint as a fungicide. It was removed from latex paint because it released 2-3 mcg/m³ into the room air. This is 1/50th the amount inside a mouth with amalgams after chewing gum for one minute.

The half-life of mercury in the brain is 30 years.

Mercury is transported in breast milk and breast milk may actually promote better absorption of mercury by the nursing infant. According to the EPA,

60,000 babies per year in the US are born with neurodevelopmental disorders due to neonatal exposure to mercury. The EPA estimated that 630,000 babies per year (1 baby in 6) are born to a mother with a blood mercury level that exceeds the Agency’s safety threshold.

Vaccines

I will sidestep the mercury in vaccines issue because it would be beyond the scope of this essay. I believe that vaccine safety remains a very important issue that needs to be addressed. The fact that thimerosal and other potentially toxic chemicals are still added to vaccines intended to be injected into our body is tragic and my focus on other sources of mercury and other toxins is by no means intended to construe otherwise.

Preventing Exposure to Mercury

We can prevent one important source of mercury exposure to the children by eliminating or improving vaccines. But there will still remain the other major sources of this toxic metal. The best prevention for our children would be to never again place a mercury containing substance anywhere in a child’s or a woman’s body. And let’s not poison the men either. The next best action would be to SAFELY remove existing amalgams. We must also act to vigorously change environmental laws to prevent continued mercury, as well as thousands of other toxins, from being released into the environment.

It is vital to understand a basic concept. **We must recognize that Autism Spectrum Disorders are neurological expressions of the impact of environmental toxins on genetically susceptible individuals**. These children have been damaged simply because they are less able to handle the toxins in our environment

(and the toxins injected into their bodies). This is a simple statement of genetic variability. Our genetic thumbprint determines our susceptibility to environmental changes. This, after all, is what determines successful evolution. Any species that does not have a genetic opportunity to propel forth in time of change would become extinct. Sometimes susceptibility in individuals is nature's evidence of environmental changes. We see this in the frogs and other reptiles that are showing signs of genetic disorders due to environmental toxins. Our ASD children are also showing signs of environmental toxins at a very young age. Many others show environmental effects at a later age and then we call it Alzheimer's disease or Parkinson's disease or cancer to name just a few.

Getting Your House in Order

So much for the bad news. Let's consider what we might do to keep our body healthy and make it a nutritious garden within which a new life can develop. The following is a list of recommendations that should be read carefully and contemplated deeply. This kind of list often is scanned and ignored, but I am going to ask you to read each bullet then stop and think how you might incorporate the idea into your daily life. Even while struggling to care for an autistic child, earn money and run a house we MUST create time for our own health and fulfillment. So:

Sleep well and sleep adequately. Rest is vital to your body's ability to repair itself.

Learn relaxation techniques (meditation, yoga, deep breathing, etc) and practice them regularly.

Maintain an exercise routine that you enjoy (2-3 times per week). Stretch to maintain flexibility.

Eat relaxed, not rushed. Good digestion, absorption and utilization of nutrients require undivided attention.

Eat plenty of fruits, vegetables and other plant-based foods, preferably organically grown. Choose colorful vegetables for important nutrients. The more colorful the better.

Minimize sugar, MSG, aspartame (NutraSweet), refined wheat, processed foods, hydrogenated oils and margarine. Be aware that MSG crosses the placenta and can be neurotoxic to the baby's brain.

Minimize dairy products. They really are not a human food and they are not even a good source of calcium. No other species on the planet drinks milk outside of infancy and none drink milk of another specie.

Eat less animal based foods, especially red meats. When eating animal based foods choose free range, organically fed animal sources.

Remember, there is no "junk food", there is food and there is junk!

Drink adequate amounts of clean water.

Breathe deeply. Train yourself to periodically fully expand your lungs.

Do not smoke or use unessential drugs. Minimize alcohol and caffeine. Avoid cola type sodas.

Avoid poisons in diet and environment. Periodically detoxify to cleanse your body.

Choose organic substitutes for cosmetics and cleaning needs.

Mercury Detoxification

All right, so now we are going to treat our body better. How about getting the existing toxins out. I think it is vital that you have the advice of a knowledgeable practitioner to guide you through a detoxification especially when we are dealing with something as toxic as mercury. So let's walk through the process:

I am sure that I don't need to reemphasize the rule: Do not accept "silver" amalgams in your mouth.

If you are going to get your amalgams out do it before conceiving. There is no study to give us real data but I would exercise caution and allow at least 3-6 months to elapse after the amalgams are out and you have had an adequate course of chelation type treatments.

Improvements in body burden and decreases in readily available mercury can be done any time but more potent chelation should be done after amalgams are removed.

Begin with nutritional fortification. This includes a healthy lifestyle and a healthy diet.

Alkalinize. Acids build up with normal activities and they are exaggerated with stresses of any kind. There are many ways to make our bodies less acidic. These include eating more vegetables and less meat. The actual process is straightforward but again a knowledgeable guide will be very helpful. Specific treatments may be recommended for specific diseases or symptoms or specific conditions. Primary route of non-provoked mercury excretion is through the liver to the intestines. We can bind metals in the intestines to prevent reabsorption with specific algae such as chlorella or other binders such as sodium alginate or keratin polymers. Vitamin C helps the detoxification process in many ways. Most notably it reduces the charge of the mercury ions to less toxic forms and it transports mercury to the liver for excretion. Modified Citrus Pectin may turn out to be an important vascular chelator. Allithiamin has very important qualities and in particular it can help remove heavy metals from intracellular spaces. Use adequate antioxidants including Vitamins C and E, alpha lipoic acid, carotenoids, tocotrienols, flavonoids, etc. Support sulfation needs with garlic, eggs, onions or odorless garlic supplements. MSM may also be helpful. Support methylation needs with B12, FA, TMG and B6. Support cellular energy needs with Coenzyme Q 10. Sometimes with NADH, carnitine and other nutrients may be added. Once all amalgam fillings are removed you can add a chelating substance such as DMPS, DMSA, EDTA or Penicillamine. This process should continue until subsequent provoked urine testing shows low levels of toxic metal AND any symptoms have resolved. May need to retest 3-6 months after completing treatment as levels will tend to rise due to redistribution of mercury stored in bone etc.

Take Care of Yourself, Your Children and Your Planet

Love your body. It has to last a lifetime.

Love your children. They are the future of our species.

Love this planet and take care of it as you would your self and your own child.

We evolved in a very different environment from which we are now living.

If we continue to pollute this planet the only survivors may be cockroaches.

If you won't do something then who will?

If not now then when?