

HOW TO QUELL THE RISING RATE OF AUTISM

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Abstract

Observers are calling it a national emergency as the rate of autism among children in the US and around the world is rising by as much as 800 percent. Health authorities offer no explanations but all of the research centers around childhood vaccinations which are conducted worldwide. Autistic behavior emanates from a change in the brain's output of serotonin, which can be caused by toxic metals or toxins originating in the gastrointestinal tract. This report reveals two major causes of autism: **mercury overload from preservatives in vaccines** or a **sub-acute tetanus toxin infection** of the gastrointestinal tract which results from the **over-use of antibiotic drugs**. Various nutritional measures can be taken by parents of autistic children to prevent or even reverse the symptoms of childhood autism, though most of these practices are overlooked by modern medicine. Vitamin C and chelation therapy with plant-based metal removers, use of natural antibiotics such as oil of oregano which do not result in antibiotic resistance, the consumption of tryptophan-rich foods to boost serotonin levels, the replenishment of good bacteria in the digestive tract,

and other nutritional practices are recommended. **Premature birth** is associated with autism and the use of **omega-3 fatty acids** from fish or flaxseed oil may prolong gestation and reduce developmental problems among young children. Preservative-free vaccines should only be used and vaccination schedules widened to avoid excessive overload. Certain vaccines may not be necessary.

The Emergency

Their ranks are growing. They are children who exhibit bizarre, violent behavior, children who are unable to communicate or interact socially, or who have repetitive patterns of behavior. And no one knows why. The kids are called autistic.

In the 1970s the rate of autism was about one case in 2500 children. Today it is one in 250 children. In California in the 1970s only 100-200 new cases of autism were reported annually. In 1998, new cases reported to the public-school system were 1425! In 1999 that figure jumped to 1944! In New Jersey the reported cases of autism jumped from 241 in 1991 to 1634 in 1997 (an 800% increase)! There were 4.4 cases of autism per 10,000 live births

reported in California in 1980 and 20.8 cases per 10,000 live births in 1994, a 373 percent relative increase. [Journal American Medical Association 285: 1183-85, 2001]

The British Medical Journal reports that autism jumped by 700% from 1988 to 1999! [British Medical Journal 322: 460-63, 2001] In studies prior to 1988, the estimated prevalence of autism was between 4-6 cases per 10,000 children. Among 15,500 British children between the ages of 2 and 6 years of age the autism rate has risen to 17 cases per 10,000 children. When the entire spectrum of autism disorders is considered (which includes Asperger syndrome and other rare childhood degenerative disorders), the rate rises to 63 per 10,000 children. [News.telegraph.co.uk July 8, 2001] In Japan the rate of autism was 5-16 per 10,000 in the 1980s but rose to 21.1 per 10,000 in 1996, a 31-400% increase. [Japanese Journal Infectious Diseases 54: 78-79, 2001]

Whatever is causing the rise in autism, it is a worldwide factor.

Don Harkins, a reporter for the Idaho Observer, says the epidemic of autism represents a national emergency. He asks: "What sociological perils await a nation where two percent of its people are destined to be terminally institutionalized for being unable to see outside of themselves?" [Idaho Observer, June 2000]

About 3.9 million children are born in the USA annually. At the rate of 1 in 250 children, some 15,600 children born each year, 156,000 in a decade, would exhibit autistic behavior. This estimation may be very low.

There is a disparity in figures used to number the autistic population in the US. According to the Center for Mental Health Services about 125,000 Americans are affected by these disorders, striking three times as many boys as girls. According to a resolution before the US Congress, autism has robbed at least 400,000 Americans of their ability to communicate and interact with others. The government resolution said autism disorders now affects 1 in every 500 children in America, not the 1 in 250 figure cited above.

Autistic symptoms usually appear within the first three years of life. The current estimated cost of autistic care is estimated at \$13 billion per year. Life time care of an autistic person averages \$2 million.

What Causes Autism?

For many years doctors blamed parents for autistic behavior. People would bring their children to hospitals only to be treated as bad parents. Kanner formally described the disorder in 1943 but it took till the 1960s for a psychologist, Bernard Rimland, who had an autistic child, to look at autism as a brain disorder.

Autism is now described as a neurological disorder which affects the areas of the brain that control social interaction and language. No cure exists in the medical texts, but that doesn't mean that these children are beyond hope.

Genetics, season of birth, and many other factors have been explored in the search for the cause of autism. Genetics accounts for less than 10 percent of cases. **There are no drugs that consistently alter the course of autism.** [Life Science 67: 1667-82, 2000] Nutritional therapies have been employed with some studies showing that dietary measures and magnesium/vitamin B6 supplementation are helpful in ameliorating symptoms.

Mercury Poisoning

The most convincing argument is that mercury poisoning, delivered to children via a mercury preservative in vaccines, is involved in the onset of autism. Many parents have observed sudden behavior changes in their children following vaccinations and believe vaccines were the cause. The diet may also contribute to the problem. Mercury from fish can be transferred from pregnant women to their developing fetus and after birth in breast milk. [Journal American Medical Assn 282: November 10, 1999]

The characteristics of mercury poisoning and autism are remarkably similar. While an infant only receives a few micrograms of mercury from vaccines, a single dose could represent as much as 353,000,000,000,000,000 mercury particles. [ARC Research, April 3, 2000]

Neal A. Halsey MD, writes in the Journal of the American Medical Association that the fetal brain is much more susceptible to mercury compounds than the adult brain.

Health authorities are likely to be less than candid about the connection between vaccinations and autism for fear of scaring the entire population away from vaccines altogether, which would give rise to a return of childhood diseases such as measles and polio that have almost been eradicated.

Thimerosal is the name of the mercury preservative in vaccines. Thimerosal has been used as a preservative in vaccines since the 1930s, but was assumed to be safe and never tested by the Food & Drug Administration. The recent rise in autism and the growth in the number of required childhood vaccinations before the age of two have paralleled each other. The list of required vaccines has risen from 8 in 1980 to 22 vaccines today, many requiring multiple injections.

But health officials defend the vaccines. The rate of autism has risen while the percentage of children undergoing vaccination has remained somewhat constant. In California, the proportion of children vaccinated with MMR (measles/mumps/rubella vaccine) before the age of 2 increased by 14% from 1980 to 1994 while the percentage of children diagnosed with autism jumped 572%! But the reasoning behind this type of defense for the vaccines is not valid. **It's not the rate of vaccination but the vaccine (or mercury) load children are being delivered in a short period of time.** Critics have also called attention to the fact that a child's immune system may not be ready to handle multiple vaccines all at one time. Autoimmune reactions may be responsible for autism. The bogus defense of vaccines by the scientific community is a tip off they know more than they are telling.

Another disturbing report is a survey conducted by Dr. Edward Yazbak, former medical assessor to the UK Committee on Safety of Medicines. **His survey found 76 percent of mothers who had been vaccinated just before, during or after pregnancy, had one or more children with autism disorders.** [Pulse Magazine, July 7, 2001] Maybe the mercury or toxic effect was striking kids via their mother. Symptoms take some time to emanate, so the delay in diagnosis might lead investigators off the track.

Boyd Haley, chemistry professor at the University of Kentucky, has said that *"thimerosal is extremely toxic"* and it is the **"most likely suspect for causing autism."**

Mercury Load

A front-page story in the May 27, 2001 issue of the **London Times** states that *"Mercury in vaccines for babies and infants could be the cause of a steep rise in cases of autism in children around the world, according to a growing number of scientists."* The report indicates the thimerosal preservative in vaccines is 49.6% mercury, a substance known to have neurotoxic effects.

Croft Woodruff, a Canadian health advocate, points out that the US Food & Drug Administration recommends that pregnant women avoid as much as one can of tuna in a day, which would provide 17 micrograms of mercury. However, the FDA raises no red flag over the 187.5 micrograms of mercury in vaccines given to children from birth to age 6 months. [Letter December 12, 2000] The Environmental Protection Agency has established a safety for exposure to mercury compounds at 0.1 micrograms per kilogram (2.2 pounds) of body weight per day.

Some infants who are being vaccinated using multi-dose vials with thimerosal can receive 62.5 micrograms of mercury per

doctor's visit, or 100 times more than the intake considered safe for the average 6-month old by the US Environmental Protection Agency.

Removal of Mercury from Vaccines

On July 7, 1999 the American Academy of Pediatrics and the US Public Health Service issued a joint statement calling for the removal of thimerosal from vaccines. Their statement admits that chronic, low-dose mercury exposure may cause neurological abnormalities. [Pediatrics 107: 1147-54, 2001]

While health authorities now have been forced to agree that mercury preservatives be removed from vaccines, the situation is one where current supplies of mercury-laden vaccines are permitted to be used until other preservatives or preservative-free products come into use. [Morbidity Mortality Weekly Report, July 14, 49: 622, 2000]

The removal or reduction of mercury from vaccines has begun. Thimerosal-free hepatitis B, influenza and DPT vaccines are now available. Major vaccine manufacturers have cut the maximal amount of mercury exposure from 187.5 to 75 micrograms. The FDA has announced that the vaccine known as Tripedia (diphtheria, tetanus and pertussis) now has 95% less mercury. [FDA, March 7, 2001] Vaccines for

MMR (measles, mumps, rubella) have never contained mercury. Yet health authorities keep recommending vaccines with mercury until preservative-free vaccines are available, stating that the health hazard posed by infectious disease is greater than the side effects from the vaccine. [Clinician Reviews 10: 95-96, 2000]

But the removal of thimerosal increases the potency of the vaccine. Have the new thimerosal-free vaccines been adequately pre-tested?

Vaccines Work, but There Is a Price

A recent news report said that "*vaccines are off the hook*" in regards to autism. However, Professor Walter O. Spitzer, MD, Professor of Epidemiology at McGill University in Montreal, says the news headlines emanated from a report issued by the Institute of Medicine Immunization Safety Review Committee, released on April 23, 2001, which claimed vaccines "*are as safe as a vaccine can get.*" Spitzer says the news reporters didn't read the entire report which conceded that "***MMR vaccine could contribute to autism in a small number of children.***" When millions of children are being vaccinated, that could mean thousands of children will be adversely affected. [London Times, May 27, 2001] Translation: the

government isn't lying, it's just hiding the headline that there is a strong link between vaccines and autism. The news media in this country isn't digging for the story and is content to parrot government press releases on the subject. Spitzer's comments were only published outside the US.

For good reason, **everyone is afraid of scaring parents away from vaccinations.** In 1921 there were 206,939 cases of diphtheria. In 1998, thanks to inoculation, only one case was reported. Measles struck 894,134 people in 1951. By 1998 that figure dropped to less than 100. [Insight Magazine 1999]

Vaccines work, but they have a price. The issue is not whether vaccines cause serious reactions among a small percentage of children, the issue is whether these are avoidable side effects and whether the government is covering their liability, and protecting the profits of the drug companies by not forcing them to dump their stocks of mercury-containing vaccines. The worldwide vaccine market ranges from \$2.9 to 7 billion, so vaccines are big business. [Insight Magazine 1999] The drug companies that make the vaccines are immune from legal prosecution. Victims must contact the Vaccine Injury Compensation Program which has awarded more than \$1 billion in compensation since it began in 1988. [FedBuzz.com] A \$7.50 dose of tetanus vaccine would add \$1.50 to the Vaccine Compensation Program

Fund. [Salon.com, Ready For Some Lockjaw, March 8, 2001] Only an estimated 1-10 percent of vaccine adverse reactions are reported to the Centers for Disease Control. It is obvious that more reported cases and requests for compensation among families experiencing adverse reactions could bankrupt the compensation system.

What Should the Public Do?

Everybody is pointing fingers, and nobody has any instructions for parents of young children. Parents are confronted with mandates that children be vaccinated or be shunned from entering the public schools. There are paper forms to legally opt out of vaccinations, but that still doesn't solve the problem of what parents should do to protect their children from childhood diseases.

One Vaccine at a Time

Beginning in 1993 Japan abandoned the MMR vaccine in favor of individual vaccinations for children due to an outbreak of reactions (non-viral meningitis and others).

In Britain, the suggestion that a single vaccine be administered at a time, rather than the triple MMR (measles, mumps, rubella) combination vaccine, has been met with disdain by physicians. Dr. David Sinclair said this would be "*pandering to the*

chattering classes and not to children's health." [News.telegraph.co.uk July 8, 2001] Note the arrogance here from physicians.

In Britain, one doctor who chose to give the MMR in single vaccinations rather than as a combo, is now facing discipline by the Department of Health. [BBC News August 6, 2001]

Barbara Loe Fisher, president of the National Vaccine Information Center in Vienna, Virginia, says **vaccines should not be administered to sick children, multiple vaccines in one office visit should be abandoned and re-vaccination among children who have already experienced a reaction should be avoided.** [Annals Internal Medicine 133: 661, 2000]

A reason why all children aren't affected by mercury preservatives in vaccines

William Walsh, PhD, of the Pfeiffer Treatment Center in Illinois, has discovered that a **defect in the function of a protein called metallothionein is a distinctive feature of autism.** This disorder often goes unnoticed in infancy and early childhood, says Walsh, until aggravated by a serious environmental insult. [American Psychiatric Association Annual Meeting, May 10, 2001, New Orleans] Walsh found that 99% of people with autism have a metabolic defect in

their ability to handle and dispose of mercury. **Among 503 autistic people, 499 were unable to produce metallothionein**, a protein compound that binds to heavy metals in the body like mercury as well as cadmium, lead, copper, iron and zinc. Walsh's study explains why every child who undergoes vaccination does not develop autism. The London Times placed Walsh's report on its front page but American newspapers passed up the opportunity to publish the results of his study, as if working in lock step to keep the lid on the link between mercury and autism.

Metallothionein is rich in sulfur and a sulfur compound called cysteine. Metallothionein binds to potentially toxic metals, but these metals can be jarred free during states of inflammation, infection or disease, and induce rusting of tissues (oxidation). [Archives Biochemistry Biophysics 363: 171-81, 1999] Metallothionein is produced throughout the human body but is concentrated in liver, kidneys, intestine and the pancreas and only occurs in small amounts in the blood circulation and brain. [Progress Food Nutrition Science 11: 1-37, 1987]

Boost Metallothionein

Walsh advocates stimulation of metallothionein with zinc and manganese and by the provision of a sulfur-bearing amino acid, cysteine.

Also on Dr. Walsh's nutrient list is vitamin B6, vitamin C, selenium and vitamin E.

A dietary sulfur deficiency results in a deficiency of metallothionein.

[Experientia 34: 281-91, 1979] Eggs, garlic, asparagus and onions are sulfur-rich foods. The provision of cysteine, a sulfur-rich amino acid, increases the production of metallothionein. [Journal Pharmacology Experimental Therapy 255: 554-64, 1990]

Vitamin C increases metallothionein levels in the liver.

[Toxicology 43: 251-59, 1987; 85: 85-100, 1993] Vitamin C reinvigorates the action of glutathione, a major antioxidant in the body. When synthesis of glutathione is low, more metallothionein is produced. [Biometals 6: 171-78, 1993] These metal defense systems back up each other. When one fails, another other takes over.

Mercury wastes or uses up selenium, a trace mineral that combines with vitamin E to produce an important antioxidant enzyme in the body called glutathione peroxidase. Selenium protects from mercury poisoning. [Annual Review Nutrition 17: 37-50, 1997] Selenium seems to protect against metal poisoning through methods other than metallothionein. [Journal Toxicology Environmental Health 38: 171-82, 1993; American College Nutrition 61: 646-50S, 1995]

Metallothionein has a working relationship with vitamin E. When vitamin E levels are low, more metallothionein is produced. [European Journal Nutrition 39: 112-20, 2000] Again, these nutrient systems back up each other to protect from unbound metals being introduced into the system.

Bioflavonoids are metal-binding pigments found in grapes, berries and citrus fruit that can take the place of metallothionein. [Biology Trace Element Research 62: 135-53, 1998]

Importance of Zinc

Dr. Walsh also says that a relatively high ratio of copper over zinc results in children who are hyperactive, who have attention deficit and poor behavior control. High copper ratios also lead to estrogen dominance in adult females which leads to depression and irritability.

Studies suggest that infants and children may be at risk to develop subtle developmental delay if they do not receive sufficient zinc in the first few years of life. Metallothionein accumulates when tissues are exposed to excess zinc and is depleted in states of zinc sufficiency. [Journal Nutrition 126: 11782-90, 1996]

Zinc deficiency induces a shortage of metallothionein. [Proceedings National Academy Science 87: 1259-

62, 1990] Dietary zinc deficiency impairs metallothionein levels in the brain. [Neurochemistry International 36: 555-62, 2000] Levels of metallothionein in the liver are highest among newborn infants and fall at around 4 months of age. [Pediatric Research 24: 326-29, 1988]

The Role of Essential Fats in Autism

The red blood cell level of unsaturated fats, primarily the omega-3 fats obtained in the diet from fish and flax seed, is low among autistic, attention deficit and dyslexic children. [Prostaglandins Leukotrienes Essential Fatty Acids 63: 21-25, 2000] A recent study found markedly reduced levels of omega-3 fatty acids among 23 percent of autistic subjects compared to mentally retarded children, who often have low omega-3 fatty acid levels themselves. [Prostaglandins Leukotrienes Essential Fatty Acids 65: 1-7, 2001]

Serotonin and Autism

Serotonin is a relaxing brain chemical that is involved in mood and in autism. During normal childhood, humans undergo a period of high brain serotonin production, a process that is disrupted in autistic children. [Annals Neurology 45: 287-95, 1999] Most autistic individuals treated with serotonin transport inhibitors exhibit a reduction in ritualistic behavior and aggression.

[Current Opinion Pediatrics 8: 348-54, 1996]

An amino acid called tryptophan, supplied in the diet, is required for the production of serotonin. Autistic people exhibit a significantly lower ratio of serum tryptophan compared to other neutral amino acids (proteins), which means less tryptophan is available to brain tissues in these subjects. [Biomedical Pharmacotherapy 49: 288-92, 1995] **Studies reveal that a low-tryptophan diet increases behaviors such as banging and hitting self, rocking, pacing, and anxiety among autistic individuals.** [Archives General Psychiatry 53: 993-1000, 1996]

Tryptophan-rich foods encourage the production of serotonin, the brain chemical lacking in autistic people. [Advances in Pediatrics 33: 23-47, 1986] Foods which have the highest amounts of tryptophan (serotonin production qualities) are (in order): dates, papaya, banana, strawberries, cherries, pineapple, grapefruit and figs. [American Journal Clinical Nutrition 71: 1669-75S, 2000]

A deficiency of niacin (vitamin B3) often accompanies serotonin deficiency since both serotonin and B3 are composed of tryptophan. In a state of vitamin B3 deficiency more tryptophan is needed to make this vitamin and less remains to be transformed into serotonin. So niacin

may be added to a food supplement list for autistic people.

The Best Diet is Not Good Enough

It is easy to see here that a decline in the nutrient value of foods may underlie the increased rate of autism. Comparisons of food values by the US Department of Agriculture from 1963 to the present reveals many plant foods do not provide the nutrients they once did. Furthermore, the insistence by health authorities that children consume 5 servings of fresh fruits and vegetables daily is unlikely to be met by young children who have fussy food preferences. [Nutrition Reviews 59: 224-35, 2001] Eight of ten young children simply do not consume sufficient amounts of plant foods. Research conducted at the University of California at Berkeley reveals that nutritional deficiencies can result in damage to DNA genetic material similar to what results from over-exposure to atomic radiation. [Mutation Research 475: 7-20, 2001] The diet simply is not adequate to provide optimal defense against disease.

The mass use of food supplements (vitamin pills) by young children is called for, but this practice is unlikely to be advocated by health authorities. Nutritionists continue to insist that children (and adults) can obtain all the nutrients they need from their diet. This may be true if a parent

is trying to prevent scurvy and rickets in their children. Food fortification also goes a long way in preventing deficiency diseases. But then again, young children are unlikely to eat the proper foods, particularly raw fruits and vegetables that have not lost nutrient value due to cooking and processing. The consumption of the recommended five servings of fresh fruits and vegetables daily has never exceeded 23% among US adults, let alone young children. [American Journal Public Health 90: 777-81, 2000] A survey of American school-age children, 7-12 years of age, found that 12-13% consumed less than 30 milligrams per day of vitamin C. [Journal American College Nutrition 18: 582-90, 1999] Furthermore, the amount of vitamins and minerals provided by the diet is not sufficient to withstand the universal assault on the immune system posed by vaccines.

Ranges of Nutrients in Food Supplements for Children:

Vitamin C: should be the buffered (alkaline) form of vitamin C (not ascorbic acid) which is already chelated (attached to) minerals. Supplemental dosage should exceed 100 milligrams per day for young children. Provide 200-300+ milligrams per day in the days surrounding vaccinations. Watery stools can result from vitamin C overload.

Vitamin E: Should be from natural-source vitamin E as d-alpha tocopherol succinate. Dosage: 15-30 IU

Niacin: 5-10 milligrams per day for young children.

Zinc: poorly absorbed from most foods. Food supplements should provide about 4-6 milligrams for kids.

Selenium: This trace mineral should be obtained in its organically-bound form (brand name, SelenoExcel). Dosage: 15-40 micrograms.

Vitamin A: The measles vaccine reduces blood serum levels of vitamin A. [Acta Paediatrica Japan 40: 345-49, 1998] Dosage: 2500 IU as vitamin A palmitate

Omega-3 fatty acids: Preferably should be provided from fish oil that provides DHA, the type of fat that insulates neurons in the brain and nervous system. Flaxseed oil is usually preferred by children because of its taste, but it has to be converted in the liver into DHA for use by nerve cells. Flaxseed oil is probably the best alternative for young children. Normal and autistic children require supplementation with omega-3 fats since the American diet is deficient in these essential fats. Dosage: 1000-2000 milligrams per day.

The diet should be rich in **bioflavonoids** from grapes, berries

and citrus fruit and in **sulfur** from eggs and asparagus.

Magnesium and vitamin B6: Children with seizures and autistic behavior probably ought to be provided supplemental magnesium and vitamin B6. [Journal Childhood Neurology 15: 763-65, 2000] While magnesium and vitamin B6 therapy for autism has more recently been discredited, the fact that a 1988 survey of parents of autistic children found this nutrient combination more helpful than drugs cannot be ignored. [Journal Childhood Neurology 3: 68-72S, 1988] Apparently both vitamin B6 and magnesium are required in combination to produce behavioral and biochemical changes in autistic children. [Biological Psychiatry 20: 467-78, 1985] The side effect of excess magnesium is loose stool which is remedied by reducing the dosage. Of interest, magnesium therapy is less effective among older adults with tetanus infection. [Anaesthesia 54: 302-03, 1999]

Good bacteria: acidophilus-bifidus supplements are likely to be helpful in cases of existing autism. New brands that offer live refrigerated acidophilus bacteria (Bio-K Plus) may be a breakthrough in this approach to therapy.

There is argument over dietary approaches for autism. All of the above measures, even foods, should be introduced to autistic individuals in small doses, with careful observation.

Dietary programs need to be tailored to the individual. For example, anemic children (who often have cold hands and feet because of a lack of red blood cells as well as fatigue) may not benefit from foods or supplements that chelate minerals. Whereas children with toxic metals in the brain may benefit from chelation and iron supplementation would worsen symptoms. Children with low-grade tetanus infection in the digestive tract may benefit from acidophilus supplements. Attempts should be made to tailor diets and supplements around what is observed to work.

Chelation for children or adults who are already autistic

There is hope that metal chelation may be therapeutic for autistic kids. A number of alternative medical clinics perform intravenous chelation therapy using EDTA as a metal chelator, but there is little documented evidence of its effectiveness. Some people in the know estimate two thirds of autistic children improve after chelation therapy.

Chelation can be safely performed at home. **Nature's strongest natural metal chelator is phytic acid, obtained from rice bran and available as a food supplement called IP6 in health food stores.** [Cancer 56:717-718, 1985] Phytic acid can be taken in low doses, 200-

1000 milligrams for children, with water only (no juice) in between meals, so as not to interfere with minerals in the diet. Parents should provide young children with a magnesium mineral supplement, 50-100 milligrams, to balance the calcium found in the rice bran. In a course of 10-30 days chelation would be complete. Since phytic acid is a component of whole grains and rice bran extract has been used as a food supplement by many thousands of people, it is not expected to be troublesome in a short course. Prolonged use might induce iron-deficiency anemia. IP6 rice bran extract should not be used among anemic individuals or pregnant females. The case of a 4 1/2-year old autistic boy with elevated levels of lead in his blood circulation whose hyperactivity improved upon removal (chelation) of the heavy metal (but returned with discontinuation of treatment) is evidence that chelation therapy may be promising for some autistic children. [Molecular Medicine 93: 136-38, 1996]

Other food supplements that may be helpful for children with metal overload are alpha lipoic acid (sulfur compound) and bioflavonoids (such as grape seed extract, elderberry, cranberry, etc.).

All humans of every age are prone to metal toxicity, particularly in their nervous system and brain. Chelation of metals from the brain and nervous tissues may be therapeutic to adults

with brain disorders. The case of a 47-year old dentist who developed Parkinson's disease and experienced improvement with the use of a mercury chelating drug serves as an example of this approach. [Neurotoxicology 17: 291-95, 1996]

Digging Deeper

The sole cause of autism is probably not mercury poisoning. Developmental problems, hormones and other unknown factors are likely to be involved. **Recall that autism strikes far more boys than girls, which goes unexplained** (see below). A recent survey found 83% of autism cases were among boys. [British Medical Journal 322: 460-63, 2001] Between the ages of 2 to 4 years, one study found autistic boys had a brain volume larger than normal. [Neurology 57: 245-54, 2001] **Autistic children are more likely to experience painful oversensitivity to sound.** [Journal Autism Developmental Disorders 29: 349-57, 1999] Autistic children may have more visual problems, particularly farsightedness, astigmatism and crossed eyes. [Journal French Ophtalmologie 20: 103-10, 1997] Autoimmune factors may interfere with the thyroid hormones in young autistic children. [Journal Child Psychology Psychiatry 33: 531-42, 1992] Premature infants who develop blindness of prematurity (retinopathy) are more likely to exhibit autistic behavior.

[Developmental Medicine Childhood Neurology 40: 297-301, 1998] But these children are observationally autistic from infancy, and don't fit the common pattern of onset around the age of 3. Yet many birth-related developmental disorders do not emanate early but rather materialize in the second to fourth years. Other factors must be explored.

Premature Birth

Premature birth is associated with (not necessarily the cause of) autism. In one study of 77 babies who were born at the 23rd week of gestation and survived, 34% had severe disability defined as subnormal cognitive function, cerebral palsy, blindness and/or deafness, a pattern that is strangely similar to those found in autism. [Seminars Neonatology 5: 89-106, 2000]

Premature birth is defined as birth before 37 weeks of gestation. Due to modern medical technology, survival has increased significantly in extremely premature infants. For example, at Washington University, St. Louis, the survival rate of infants weighing less than 800 grams (1 lb 12 oz) at birth increased from 20% in 1977 to 49% in 1990. [American Family Physician Website, May 1 1998] Among 5271 infants cared for in a Japanese hospital neonatal department, 18 developed autistic disorder and the incidence was 34 per 10,000 (0.34%), which was twice

the highest rate previously reported in Japan. [Journal Autism Developmental Disorders 29: 161-66, 1999]

Infants born prior to 25 weeks of gestation are more likely to exhibit severe disabilities if they survive. [New England Journal Medicine 329: 1597-1601, 1993] Among 568 babies born prematurely between 23-26 weeks gestation, only 4 were free of major handicap at 2 years of age. [Obstetrics Gynecology 82: 1-7, 1993] The fact more low-birth weight children survive today could account for a percentage of the autism growth rate. The public is generally uninformed by educational groups about the link between premature birth and autism.

The prevalent opinion is that there is no conclusive evidence that premature birth is linked to autism. But this topic is poorly studied. One study found the factors associated with autism are low birth weight, late start of prenatal care, and previous termination of pregnancy. [Journal Perinatal Medicine 27: 441-50, 1999] Because of widespread population control efforts, it is likely that the association between terminated pregnancy (abortion) and autism is politically incorrect.

How to Prevent Prematurity

There are measures that pregnant women can take to prolong

pregnancy and encourage full-term babies. Prematurely-born infants have less circulating omega-3 fats than full-term babies. [Sb Lek 94: 19-24, 1993] **Deficiencies of omega-3 fatty acids have been linked with premature birth and low-birth weight babies.** In one study, women who ate eggs fortified with omega-3 fats had no low-birth weight babies versus 13% low birth weight babies among women consuming small amounts of omega-3 fats. Only 6% of babies were delivered pre-term by mothers who consumed omega-3 fortified eggs versus 25% in the group that consumed regular eggs. Fish oil consumption (2700 milligrams per day providing at least 500 milligrams of DHA) is now recommended during pregnancy. [Obstetric & Gynecologic Survey 56: 1-13S, 2001]

In 1997 researchers reported an association between high vaginal pH (alkalinity) and premature birth, a problem that can often be corrected by the provision of good bacteria (lactobacillus acidophilus) treatment. [Journal Perinatal Medicine 25: 406-17, 1997]

Other risk factors for prematurity are smoking and drug use. [Epidemiology 11: 427-33, 2000]

Autism and the Tetanus Toxoid Vaccine

The theory that tetanus is a cause of autism was first proposed by

E.R. Bolte in 1998. Everyone probably thinks of tetanus as lockjaw and tetanus shots as prevention against an infection one gets from rusty nails. Actually, tetanus is a prevalent pathogenic bacterium that can infect the umbilical cord after birth and cause the death of a newborn baby as well as the mother. Neonatal tetanus infections are common in undeveloped areas of the world where untrained midwives cut umbilical cords with razor blades or other unsterile instruments.

Researchers theorize that a chronic, subacute tetanus infection of the intestinal tract could gain hold in the human gastric tract that has been over-exposed to antibiotics drugs which have killed off protective bacteria. **Tetanus may eventually enter the nervous system and make its way to the brain where it has been shown to disrupt the release of brain chemicals which can produce altered behavior.** This has been demonstrated in laboratory animals injected with tetanus in the brain. Some children with autism have also shown a significant reduction in abnormal behavior when treated with antibiotics that kill off the *Clostridium tetani* bacterium. [Medical Hypotheses 51: 133-44, 1998]

Links Between Tetanus and Autism: Sex Ratio

Some compelling evidence links tetanus with autism. First, recall that the sex ratio for autism is about 3 boys for every affected girl. For example, a ratio of 4.2 to 1 boys over girls was found in autistic care facilities in Israel, which is typical of the ratio around the world. [Israeli Medical Association Journal 3: 188-89, 2001] This same ratio unexplainably occurs in the percentage of newborn boys and girls who experience tetanus infection. In a Turkish hospital, among 133 newborns being treated for neonatal tetanus, 79 were males and 56 were females. [Scandinavian Journal Infectious Disease 25: 353-55, 1993] Another Turkish study reveals that 74% of neonatal tetanus cases admitted to a hospital in Istanbul were males. [Turkish Journal Pediatrics 34: 121-25, 1992] In Thailand, the ratio of male to female neonatal tetanus cases was found to be 1.5 to 1.0. [Journal Medical Association Thailand 72: 638-42, 1989] In a 1976 study in Mexico, the ratio of males over females with neonatal tetanus was 4.62 to 1. [Bol Med Hospital Infant Mexico 33: 465-71, 1976]

Links Between Tetanus and Autism: Season of Onset

A similar parallel exists for the season of birth, autism, and tetanus infection. Tetanus infection is known to peak in

the Spring and midsummer. A Swedish study showed a peak for autism among births occurring in March. [Acta Psychiatrica Scandinavia 82: 152-56, 1990] An Israeli study shows an increase in autism among March and August births. [American Journal Psychiatry 152: 798-800, 1995] A study in Boston also shows a seasonal peak in March for autism. [Journal Clinical Experimental Neuropsychology 22: 399-407, 2000]

Links Between Tetanus and Autism: Magnesium and Vitamin B6

Another intriguing triad is that of magnesium/vitamin B6 therapy, tetanus and autism. As previously cited, numerous studies indicate magnesium and vitamin B6 may be helpful in relieving symptoms of autism. [Biological Psychiatry 20: 467-78, 1985]

Magnesium and vitamin B6 are also used in the treatment of spasms (lockjaw) caused by a tetanus infection. Magnesium is a smooth muscle relaxant. Intravenous magnesium has been successfully used to treat severe spasms of tetanus without the need for sedative drugs or artificial ventilation. [Anaesthesia 52: 956-62, 1997; Annals Academy Medicine Singapore 28: 586-89, 1999]

Vitamin B6 works to make magnesium more active and bio-available. Vitamin B6 reduces the mortality rates among infants with tetanus infection. [Journal Infectious Diseases 145: 547-49, 1982] In one study, the mortality rate among neonates with tetanus infection given vitamin B6 orally along with drugs was 38% versus 60% among drug-treated only children. [Paediatrica Indonesia 31: 165-69, 1991]

Some parents have bathed their children in water with added Epsom salt which is rich in magnesium and have achieved some improvement in behavior and language skills. [Pervasive Developmental Disorders: finding a Diagnosis and Getting Help, Mitzi Waltz, 1999 at www.patientcenters.com]

The use of magnesium and vitamin B6 among autistic people was dismissed after a 1997 study found the combination therapy to be ineffective. But the study utilized an unusually high dose of vitamin B6 which would likely cause nerve side effects and a relatively-low dose of magnesium in its poorest-absorbed (oxide) form. [Journal Autism Developmental Disorders 27: 467-78, 1997]

Three intriguing findings:the sex ratio of autism, season of onset, and magnesium/vitamin B6 therapy for autism, parallel each other. Are these findings just coincidence?

Is Tetanus Vaccine a Risk Factor for Autism?

The general belief is that tetanus toxoid vaccination during pregnancy affords protection for mother and baby and poses no risk to either party. [Clinical Infectious Disease 28: 219-24, 1999] Tetanus toxoid vaccine is administered in the 3rd trimester since transfer of immunity from mother to baby occurs late in pregnancy. [Nature Medicine 5: 427-30, 1999] The World Health Organization says the last dose of tetanus vaccine should be administered to pregnant females at least 2 weeks before delivery. [World Health Organization]

Of 3+ million babies injected with the tetanus-containing DPT vaccine annually, over 33,000 will experience acute neurological reactions, which includes 8500 cases of convulsions and 16,000 instances of high-pitched screaming.

There is no question that the tetanus vaccine reduces infection and neonatal death. In the early 1900s about 1500 people contracted tetanus each year then. The vaccine apparently reduced tetanus to 500-600 annual cases into the 1940s, and thereafter tetanus cases dropped to fewer than 70 annually. In 1900 about 64 of every 100,000 infants less than 1 year of age died of tetanus, most shortly after birth due to improper umbilical cord care. Since

1989 only 2 cases of tetanus in newborns have been reported in the US. An estimated 300,000 cases of neonatal tetanus infection occur annually, most in undeveloped areas of the world. A relatively large percentage of the US population has not been vaccinated against tetanus, yet where are all the tetanus cases from rusty nails?

Doctors in the Netherlands have reported a case of transient Parkinsonism in a 38-year old metal worker after he had received the last of 3 tetanus vaccinations. [Journal Neurology Neurosurgery Psychiatry 63: 258-59, 1997]

Irregularities in Tetanus Vaccines

Tetanus spores are scattered everywhere and are so tough they easily tolerate antiseptics or being heated to 250 degrees Fahrenheit for 10-15 minutes. Tetanus lives in soil, the bowels of animals and humans, and is only dangerous when it enters a wound and is deprived of oxygen which ignites its replication and then gives off toxins that block nerve impulses for muscle relaxation, resulting in spasms. [Vaccinating Your Child: Questions & Answers for Concerned Parents, Peachtree Publishers, 2000, at www.kidsdirect.net]

To understand how tetanus, or the tetanus toxoid vaccine, may induce

autism, a working knowledge of how the vaccine is made and how it works is called for. The vaccine is composed of toxoids of tetanus (toxins emitted from organisms) and cultured in beef heart infusion along with sugar, salt and milk by-product. The broth is then filtered and formaldehyde added (embalming fluid) along with aluminum compounds. Once inside the human body the formaldehyde coating dissolves and releases all bacterial and viral particles.

Troubles have occurred with the tetanus vaccine from its first production in 1924.

Dr. Kris Gaublomme says *"infections and intoxications due to mistakes in the production of the vaccine have played a role since the beginning of its development. Due to technical failure, particles of tetanus remained in the vaccine fluid causing illness and death. The use of certain soils makes it possible that the concentration of formaldehyde is insufficient, so that un-detoxified toxoid remains."*

Furthermore, tetanus vaccines (or any vaccines for that matter) are not standard from one manufacturer to another. A landmark 1985 report indicated the nation is vulnerable to interrupted supply of vaccines like tetanus due to stability problems, variation in potency, or contamination. [Vaccine Supply and Innovation 1985, National Academy of Sciences]

In 1984 two of the three companies producing DPT vaccines (diphtheria/pertussis/ tetanus) ceased distribution, citing problems with liability exposure the cost of insurance premiums. That led Congress to establish the vaccine compensation fund. But production problems still persist and the Centers for Disease Control announced this past year that Wyeth-Ayerst, one of two US manufacturers of tetanus vaccine, would withdraw its product from production.

For a time, a limited supply of tetanus vaccine is available in the US. It will be interesting to monitor any slow down in childhood tetanus vaccinations to see if an accompanying drop in the rate of autism also occurs. A slow down in the tetanus vaccination rate may not occur among newborns or pregnant females however since the CDC directives recommend pregnant women who haven't been vaccinated within the past 10 years should have priority access to tetanus vaccine. [American Medical Association April 11, 2001]

To add to the intrigue, Wyeth-Ayerst claims it ceased production of its tetanus vaccine for purely business reasons, but the FDA raided a Wyeth warehouse and seized various products including tetanus/diphtheria vaccine. Later, an FDA spokesperson indicated she was wrong in indicating tetanus vaccines were seized from Wyeth, but

Wyeth-Ayerst says the seizure involved various products including tetanus/diphtheria vaccine. The FDA says vials of the vaccine were released into the marketplace, whereas Wyeth-Ayerst says they never got that far. Both parties say the vaccine was never a risk to public health. Apparently it wasn't the vaccine itself, but its packaging that was at fault. [Salon.com, Ready For Some Lockjaw, March 8, 2001] Question: was the Wyeth tetanus vaccine contaminated via small punctures in the packaging that permitted contamination with the Clostridium tetani bacterium itself? The public has no access to data on which brands of vaccines have been administered to autistic kids. One wonders if there is a link between autism, tetanus inoculation and a particular brand of the vaccine?

Recall that it was Wyeth-Ayerst who introduced its Rotavirus anti-diarrhea vaccine with an intense advertising campaign, induced widespread usage (over 1 million children were administered the vaccine), but was forced to withdraw the product shortly after its introduction because of cases of bowel obstruction that ended up to be deadly for a small number of children. Also recall that Wyeth-Ayerst had to recall its fen-phen diet drug when it was found to cause heart problems that cost the company \$3.7 billion in damages.

How Often to Vaccinate?

Furthermore, how often to vaccinate with a tetanus booster is simply guesswork. Apparently too much of this vaccine can backfire. Tetanus toxoid appears to afford protective effect up to 3 or more years following vaccination. However, in Tanzania researchers have reported that the serum antibodies against tetanus toxin in 7 neonates who were infected with tetanus were found to be 4-13 times higher than the presumed protective level. All but one of the mothers had been vaccinated with tetanus toxoid in pregnancy. Two mothers who had received booster doses during pregnancy had anti-toxin concentrations 100-400 times the presumed protective level. The toxin dose may overwhelm the pre-existing anti-toxin level and produce disease and lead to an ineffective immune response. [FEMS Microbiology Immunology 3: 171-75, 1991]

Attempts to Make Tetanus Vaccine a Population Control Agent

There are more disturbing reports surrounding the tetanus vaccine. The American Life League reports that the World Health Organization (WHO) spent over \$356 million for women's reproductive health, in part to **develop a vaccine against pregnancy**. WHO covertly added human chorionic gonadotrophin

(HCG) hormone, which is essential to maintain pregnancy, to tetanus vaccines and administered them to women of childbearing age in Mexico, Nicaragua and the Philippines. Upon pregnancy antibodies will not only be formed against tetanus but also to HCG which **would then cause a spontaneous abortion**. High levels of HCG were detected in 27 of 30 vaccinated women tested. Cases of miscarriage were reported. Every time an inoculated woman would get pregnant her immune system would prompt a miscarriage (abortion). This story was aired by the British Broadcasting Corporation in 1995 and verified by the Philippine Department of Health and the Philippine Medical Association, but was never aired in the USA.

Dr. Jong-Wock Lee, director of the the World Health Organization (WHO) Global Programme for Vaccines and Immunization, called these charges nothing but rumors without scientific basis. The positive HCG hormone in the tetanus vaccine was called an "*artifact*" and dismissed. WHO said tests from tetanus toxoid samples from Mexico and Tanzania were negative or of "*no significance*." [WHO Press release July 19, 1995] The last two words are alarming, since no trace amount of the hormone should even exist in vaccines.

More Trouble: the MMR Vaccine

Tetanus vaccine is not the only vaccine under scrutiny. **Both the Centers for Disease Control and the vaccine manufacturers warn that the MMR vaccine (a live viral vaccine) should not be given to pregnant women.** However this vaccine is often required and administered for employment or work around children and may be administered to fertile females around the time of conception. Dr. F. Edward Yazbak reports on a small group of seven women who received an MMR or Hepatitis B vaccine booster five months prior to conception. All of the children from these pregnancies were autistic or autistic-like behavior. In a different series of 22 mothers who had received a live-virus vaccine prior to conception, every one has had at least one child who is autistic. [Idaho Observer, June 2000]

A startling report from Japan conclusively links the MMR vaccine with cases of autism. Researchers at Tokyo Medical University noted onset of autism in some cases soon after administration of the MMR vaccine. Cases of autistic children with chronic intestinal inflammation were examined to determine if the measles virus was present. Three of nine children with autism exhibited the measles virus and genetic testing determined they were from vaccine strains of the virus, not wild strains.

[Digestive Disease Science 45: 723-29, 2000]

The CDC says: *"Generally, live-virus vaccines are contraindicated for pregnant women because of the theoretical risk of transmission of the vaccine virus to the fetus. If a live-virus vaccine is inadvertently given to a pregnant woman, or if a woman becomes pregnant within 3 months after vaccination, she should be counseled about the potential effects on the fetus. But it is not ordinarily an indication to terminate the pregnancy."* [Guidelines for Vaccinating Pregnant Women, Centers for Disease Control, October 1998] Veterinarians are advised to avoid vaccinations to pregnant dogs, and if required, only with killed vaccines. [Veterinary Teaching Hospital, Virginia Maryland Regional College Veterinary Medicine]

The list of vaccines that are permitted by the CDC to be administered to pregnant females includes hepatitis B, influenza, tetanus/diphtheria, meningococcal and rabies. Given that government sources of information about the safety of vaccines are in question, **any vaccines administered to pregnant females should be seriously questioned.** Universal vaccination based upon statistical risk analysis should be abandoned in favor of careful evaluation of individual risk factors.

With all of the efforts to vaccinate and prevent disease, premature infants receive lower doses of passive maternal antibody and may not be protected regardless of maternal levels of specific antibodies. [Clinical Perinatology 24: 231-49, 1997]

Public confidence in nation's vaccination program is waning

The public confidence in the information being supplied to them about vaccines is waning. Within 10 years of the introduction of the polio vaccine, cases of polio dropped from 30,000 to less than 1000 per year, a stunning success for vaccines. But about a third of the vaccine was contaminated with a monkey virus (SV40) which was discovered in 1961, a few years after the introduction of the vaccine. **About 30 million Americans (100 million people worldwide) have been given injections of the contaminated vaccine which is now being linked to a once rare form of cancer that now causes 2000-4000 cases of mesothelioma chest cancer annually.** [San Francisco Chronicle, July 15, 2001; Atlantic Monthly, February 2000]

The Food & Drug Administration bungled the rotavirus vaccine. Rotavirus affects most young children with symptoms of diarrhea which may require hospitalization and result in 20-40 deaths annually. In 1998 the FDA approved RotaShield, the vaccine against rotavirus. Pre-

release data showed a 30 times increased rate of intestinal blockage with the vaccine but it was still recommended for all infants in 1999. Faced with evidence the vaccine was causing trouble, the CDC later withdrew its recommendation for the vaccine. Among the 1 million children who had been inoculated with Rotashield, two died and 99 cases of bowel obstruction were reported. [Free Market Newsletter, April 2001]

Last year the American Academy of Pediatrics suggested doctors cease using the oral polio vaccine and use the injected form which does not contain any live viral particles. Roughly 5 children a year develop polio from the Sabin oral vaccine. [HealthScout, December 7, 2000] Live polio vaccine has been stopped because it turned out to be the sole cause of the disease!

Timothy D. Terrell, writing in The Free Market newsletter [Mises Institute], notes that among 4 million births every year, only about 50 children will contract hepatitis B before their first birthday, typically because the mother has the virus. For children under the age of 14, the incidence is about 2-6 cases per million, which means that children are three times more likely to die or suffer adverse reactions from the hepatitis B vaccine than the disease itself. The hepatitis vaccine used to be recommended shortly after birth, but now is recommended prior to age 6 months. Terrell reveals that several members of the CDC

advisory panel on vaccines hold drug company stocks and stand to profit from their decisions.

Good Bacteria and Development of the Infant Immune System

Autoimmune reactions and brain viruses may also be involved in some cases of autism. Other autoimmune diseases such as arthritis have been associated with vaccinations (tetanus toxoid, influenza, polio and others). [Journal Autoimmunity 14: 1-10, 2000]

Teresa Binstock, a researcher in developmental and behavioral neuroanatomy, describes how the infant immune system develops. A species of B-cells (B stands for being produced in bone marrow) called CD5+ are among the first to appear in the developing embryo and play an important role in the digestive tract. **Neonates have very limited good bacteria (microflora) and are susceptible to colonization by pathogenic bacteria during the days and months following birth.** The administration of antibiotics further kills off beneficial and protective bacteria. Undesirable bacteria can release toxins that disrupt normal gut wall permeability and permit their migration to the central nervous system. A sub-acute Clostridium tetani (tetanus) infection in the gastrointestinal tract early in life, as an infant's CD5+ B-cells were

being established could result in the immune system thinking the tetanus bacterium as "normal." Thereafter the immune system would only mount a poor effort to eradicate it. Sub-acute tetanus infection may forever be experienced by those affected. Antibiotics could kill off the Clostridium tetani bacteria, but good bacteria would need to be replaced after such therapy. Babies are initially inoculated with bacteria from their mother's vaginal and fecal flora during birth. Following birth, breast feeding appears to encourage the growth of friendly acidophilus-bifido bacteria while bottle-feeding appears to encourage a wider range of bacteria including Clostridia tetani.

Protect the Gastrointestinal Tract

Autistic children often exhibit gastrointestinal troubles. Gastric distress followed by bloody stools is often reported. Antibiotics are indiscriminate in their elimination of bacteria, friendly or unfriendly, from the gut. **After a course of antibiotics a child's digestive tract is vulnerable to opportunistic bacteria that may take up residence.** Decades ago doctors provided good bacteria after antibiotic therapy but for some reason this practice was abandoned. If pathogenic bacteria take up residence in sufficient numbers they may break down the protective wall in the gut and permit undigested food

particles to enter the system which results in a food allergy response, and for the entry of neurotoxins which affect the brain by altering the production of serotonin.

Both tetanus and botulinum bacteria belong to the bacterial genus Clostridium form and release spores that produce toxins which can pass through the gut wall and block the release of nerve chemicals, resulting spastic paralysis. [Annals Pharmacy France 59: 176-90, 2001] **Of interest, components of black tea (thearubigin) protect against the nerve toxic effects of tetanus.** [Experimental Biology Medicine 226: 577-80, 2001]

The use of acid-forming probiotics like acidophilus have been proven to prevent diarrhea following antibiotic use. [International Journal Antimicrobial Agents 16: 521-26, 2000; Journal Pediatrics 135: 564-37, 1999] **Every parent needs to become familiar with probiotic products and administer them to their children following antibiotic therapy since the medical profession has overlooked this practice.**

There is growing concern over the problem of antibiotic resistance. The overuse of patentable antibiotic drugs has given rise to mutated germs that are resistant and which now pose a threat to life. [Clinical Infectious Diseases 33: 124-29S, 2001] There are various **naturally-occurring**

antibiotics that provide broad spectrum protection from pathogenic bacteria, viruses and fungi. Some of these are oil of oregano, olive leaf extract and garlic, and germs cannot mutate and develop resistance against them. [Journal Food Protection 64: 1019-24, 2001; Journal Applied Microbiology 85: 211-18, 1998; 86: 985-90, 1999] Use of these naturally-occurring antibiotics needs to be explored as they may prevent plagues that could at some time in the future sweep through human populations.

Final Notes

Be wary of what you read about autism from official sources. There is too much money, liability, and conflict of interest to obtain the truth from most governmental and health authorities. The news media is either lazy or over-cooperating with government under the guise of maintaining public confidence in vaccines. Healthy skepticism and careful investigative work is required to unveil the many hidden facts that still surround the terrible and apparently avoidable tragedy of autism in America.

A government report states that *"the federal government has responded to concerns about the safety of vaccines through several mechanisms.... In 1986 Congress passed the Vaccine Compensation Amendments as part of the National Childhood Vaccine*

Injury Act." [Immunization Safety Review, National Institute of Medicine] Typical of politicians, they protected the liability of the vaccine manufacturers and think that paying off parents for permanent side effects in their children is sufficient. There is an epidemic rise in the occurrence of autism and nobody is doing anything about it.

It is often said that innovation in any field springs outside its ranks. **Ellen Bolte, a mother of an autistic child, was the first to propose a link between tetanus and autism.** [Amednews.com, American Medical Assn, August 14, 2000; Medical Hypotheses 51: 133-44, 1998; Autism Research Review 12: No. 4, 1998] Tetanus infection appears to have strong linkages to autism. Working on Bolte's hypothesis, Richard H. Sandler MD, director of pediatric gastroenterology at Rush Children's Hospital in Chicago, conducted a short-term study upon 11 autistic children with Vancomycin, an antibiotic drug. Ten of the children experienced dramatic improvement in behavior and social skills but symptoms returned with cessation of therapy. This small study appears to confirm that link between gastric/brain infections and autism. [Journal Childhood Neurology 15: 429-35, 2000]

It is unlikely that the research community or the drug companies will come up with a cure for autism. Researchers attempt to turn a

research project into a career and often only conduct narrow studies that are fixed on understanding the mechanisms of a disease or how to diagnose it rather than find a simple, inexpensive cure. Physicians are too dependent upon pharmaceutical companies to bring them the cures for their patients. The market for a cure for autism is too small to attract a drug company, even with the orphan drug act. Special people will have to step forward, like parents of autistic children, and venture into finding the way out of autism on their own. A July 2001 Gallup poll reveals that 94 percent of the public believes childhood vaccination is important. Information about the drawbacks of vaccination had reached 39% of the public. Only 6 percent of those polled believed vaccines were more dangerous than the diseases they were designed to prevent.

There is Hope

This paper uncovers evidence of at least two origins of autism, vaccines and the over use of antibiotics which can result in the growth of pathogenic bacteria in the digestive tract. Thus, while the behavioral symptoms of autism may be similar, as both tetanus toxins, or heavy metals like mercury, may alter brain chemicals (serotonin), therapeutic approaches to these children need to be carefully tailored around the origin of their disease. Metal chelation may be appropriate for one group, and antibiotic/probiotic therapy may be indicated for another.

There is hope for autistic children. In a 1979 report, a set of twins exhibited early infantile autism, but for unknown reasons one of the children spontaneously improved at the age of 4. [South African Medical Journal 55: 955-57, 1979] The disease is not necessarily locked in.

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CHECKLIST

- Avoid child vaccinations when children are ill
- Insist upon preservative-free vaccines
- Space out the vaccines
- Think of opting out of unnecessary vaccines like the hepatitis vaccine
- Give supplemental vitamin C to children during the vaccination years
- Provide sulfur-rich foods like eggs and asparagus to children
- Provide tryptophan-rich foods to autistic children to improve serotonin levels
- Avoid over-use of antibiotics for young children
- Use acidophilus supplements in between courses of antibiotics
- Pregnant mothers should consume omega-3 fatty acids from flax oil or fish oil to help prolong gestation and prevent premature birth
- Women should be wary of receiving any vaccines during pregnancy
- All children should be provided supplemental omega-3 fatty acids (flax oil) in their feedings since this essential fat has been removed from the food chain
- Zinc, niacin, vitamin A, vitamin E and should probably supplement a child's diet
- Magnesium and vitamin B6 are worthy of a trial among autistic children
- There is no rush to vaccinate children. Request that your doctor provide a list of the entire vaccination schedule he/she has in mind for your children so you can examine it ahead of time.