



# Autism Alternatives: What to Do?

James Biddle, MD  
1/30/08

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## Disclaimer

- Disclaimer – this is simply an educational program and is not intended to diagnose or treat any individuals. Diagnosis and treatment of any disease should be done by a licensed health care practitioner in an office setting.

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## Who I am .....

- BA in Biology, University of Missouri – Columbia 1984 (genetics & evolution).
- M.D. @ Univ of MO – Columbia 1989.
- **Internal Medicine** in Portland OR – Board Certified 1992; recertified in 2002.
- [www.earthaven.org](http://www.earthaven.org) , [www.acam.org](http://www.acam.org) , [www.ncims.com](http://www.ncims.com)

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## Why am I presenting on Autistic Spectrum Disorder?

- Board member of the American College for Advancement in Medicine – [www.acam.org](http://www.acam.org).
- Recognized by the American Board of Clinical Metal Toxicology- [www.abcm.com](http://www.abcm.com) .
- Willing to implement DAN! treatments from the Autism Research Institute - [www.autismwebsite.com/ari/dan/dan.htm](http://www.autismwebsite.com/ari/dan/dan.htm)
- **Parents keep bringing kids in.**

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## “Autism: What to Do?”

- Review evidence linking individual genetic susceptibility and **toxic insults**, esp vaccines and mercury, to autism.
- Discuss **biological treatment approaches** to autism.
- Discuss some of the medico-legal-social barriers to more effective autism treatments.

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## What does the **Biomedical** approach mean?

via Lauren Underwood PhD, mom of an autistic child:

“The application of the natural, biological, and physiological **sciences** to the practice of clinical medicine.”

Natural... Wholistic... Integrative...  
Orthomolecular... **Good Medicine!**

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## Autism References:

- Autism: An Extreme Challenge to Integrative Medicine. *Alternative Medicine Review*. Parris Kidd PhD. 2002; 7 (6); pg 472-498. 104 references.
- Autism: Effective Biomedical Treatments; Individuality in an Epidemic. 9/05. Jon Pangborn PhD and Sid Baker MD. More biochemistry than you can shake a stick at.

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## Parent ratings of three most often used drugs, and three most often used nutrients:

Three most used drugs	Got Worse	No Effect	Got Better	Better: Worse	No. of Cases
Ritalin	45%	26%	29%	0.7:1	3650
Benedryl	24%	51%	25%	1.1:1	2573
Risperidal	19%	28%	53%	2.8:1	401

Three most used vitamins	Got Worse	No Effect	Got Better	Better: Worse	No. of Cases
Vit. B6 & Mag.	4%	49%	46%	10:1	5284
DMG	7%	51%	42%	5.7:1	4725
Vit. C	2%	58%	39%	16:1	1408

[www.AutismResearchInstitute.com](http://www.AutismResearchInstitute.com)



## Basic Thesis:

Autism =  
Genetic Susceptibility  
+ Time-Sensitive Toxic  
Insults

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## Genetics of Autism

- Identical twins - often both have autism, unlike fraternal twins.
- 20 or more genes may be associated with autism.
- Parents with one autistic child have increased odds (5%-8%) of future children having autism.
  - *Advice for Parents of Young Autistic Children: Spring (2004)*. James Adams, PhD, Stephen Edelson PhD, Temple Grandin, PhD, Bernard Rimland, PhD

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## Genetics alone don't cause epidemics

- "Genetics load the gun, environment pulls the trigger."
- In just 20 years, Autism has increased
  - From 1 in 2,500-10,000 births
  - To 1 in 150-166 births
- Half-million children diagnosed with ASD; may actually be 1.5 million.
  - Bock, Kenneth and Cameron Stauth. *Healing the New Childhood Epidemics*. Ballantine Books, NY. 2007.

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## Suspected environmental causes include:

- Childhood vaccines may compromise immune system (Th1-Th2 balance).
- Thimerosal Hg in childhood vaccines.
- Maternal exposure to mercury, esp Rhogam, fish, and dental mercury amalgams.
- Excessive use of oral antibiotics.
  - *Advice for Parents of Young Autistic Children: Spring (2004)*. James Adams, PhD, Stephen Edelson PhD, Temple Grandin, PhD, Bernard Rimland, PhD

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## Suspected environmental causes include:

- Lack of essential minerals (zinc, magnesium, iodine, lithium, and potassium may be especially important).
- Pesticides and other environmental toxins.
  - **Advice for Parents of Young Autistic Children: Spring (2004).** James Adams PhD, Stephen Edelson PhD, Temple Grandin PhD, Bernard Rimland PhD

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## “Likely Chain of Events that Leads to Autism”

**Genetics** of suboptimal metabolism of : one-carbon groups or folate, transmethylation, transsulfuration, adenosine, or glutathione.  
**Food allergies**, especially milk or wheat allergy, add concern.

**Nutritional status** may be suboptimal, particularly for vitamins A, B6, B12, magnesium and zinc. Cell defenses against toxicity and infection are hampered.

**Toxic exposures occur:** mercury or thimerosal, antimony, arsenic, organophosphate pesticides, petrochemicals, and solvents. Hampered are: DPP4 (adenosine deaminase and exorphin digestion), methionine synthase, folate chemistry, glutathione.

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## “Likely Chain of Events that Leads to Autism”

Methionine metabolism and methylation become deficient. Phosphate delivery to neurons via creatine is subnormal, causing unreliable and inadequate energy for neurons and networks to operate and coordinate.

Compromised cell defenses allow measles and other viruses to invade cells; abnormal immunity **allows infections to become persistent**, measles in particular. Inflammation and gut dysbiosis occur.

Methylation of phospholipids near dopamine D4 receptors in neurons becomes deficient. Persistent brain infection by measles may also cause **lack of neuronal phospholipid methylation**.

Deficient frequency modulation (synchrony) and deficient energy modulation of neuronal networks, during the first two years of life, prevent adequate interconnection of neuronal networks. Coordinated thoughts, organized responses and expressive speech regress or do not develop, depending on age.

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## “Likely Chain of Events that Leads to Autism”

**Inflammation** (gut or brain) results in cytokine and oxidant-induced **epigenetic changes**, such as upregulation of ubiquitin ligase (chromosome 15). Methionine metabolism is routed away from methylation towards transsulfuration (cysteine, GSH), but transsulfuration is disabled and metabolic response to inflammation is chronically deficient.

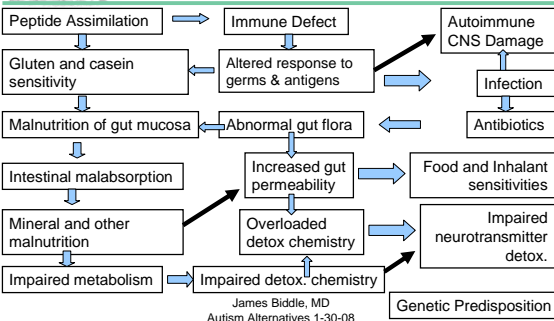
**Biochemical, epistatic, and infectious gridlock occurs, and neuronal network coordination remains deficient = autism.**

› Pangborn, Jon, PhD, & Sidney MacDonald Baker, MD. Autism: Effective Biomedical Treatments. Sept 2005. ARI DAN! Project. San Diego, CA.

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## Causation Model DAN! Model of Factors - 1995



## BIOCHEMISTRY

### Detoxification- Methylation and Sulfation?

Two of the healthy body's natural means of ridding itself of toxic substances:

- Methylation
- Sulfation

ASD children often need supplements to provide them with the raw materials their bodies need to carry out methylation and sulfation.

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## Methylation: Replacing a hydrogen with a methyl group

What you need to know about methylation is that it is an important part of the function of:

- Folic acid pathway
- B6 metabolism
- B12 metabolism
- formation of glutathione

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## Methylation: methyl donors

- Glutathione (GSH)
- Cysteine
- B6, B12
- Methionine
- SAM-e
- Folate
- DMG, TMG

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## Sulfation

To convert into a sulfate; an important role in the second phase of liver detoxification.

What you need to know about sulfation is that it is an important part of:

**Detoxification –  
including heavy metal  
and pesticide detoxification.**

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## What are the issues related to the “gut” and autism?

Two concepts/terms that are important to understand:

- “Leaky gut”
- Intestinal dysbiosis

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## Concept: Leaky Gut

Definition: an abnormal or unfavorable increase in intestinal permeability.

- The intestinal lining is supposed to be the barrier between the gut and the bloodstream.
- If the intestinal lining becomes damaged, incompletely-digested proteins or other by-products may “leak” through the intestinal lining, to be directly toxic, or recognized as foreign by the immune system (food allergies).

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## Concept: Improperly broken-down peptides.

- What is a peptide? = protein fragment:
  - Proteins are made up of peptides, which are made up of amino acids, which are the building blocks of life..
  - When foods are eaten, proteins are broken down, by enzymes, into small peptides and simple amino acids.

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## Gluten-Free Casein-Free Diet can help many ASD children:

**DPP4 enzyme** is deactivated by toxins, so many autistics break down gluten and casein into substances that act like **opiates** in their bodies. These "drug-like" substances then alter their behavior, perceptions, and responses.

Casomorphin – casein from dairy.

Gliadomorphin – gliadin from grains.

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## Resources for GFCF Diet:

- GFCF Diet website = [www.gfcfdiet.com](http://www.gfcfdiet.com)
- ANDI - Autism Network for Dietary Intervention = <http://www.autismndi.com>
- The Gluten-Free Casein-Free Diet: Special Diets for Special Kids. Understanding and Implementing Special Diets to Aid in Treatment of Autism and Related Developmental Disorders. By Lisa Lewis.

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## SCD Diet: Specific Carbohydrate Diet

- This diet eliminates specific carbohydrates (starches and sugars) and yeast products.
- Some families failed the GFCF (Gluten Free/casein Free) diet, and moved to the SCD Diet with great results.

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Rimland, B. Edelson, SM. Parent Ratings of Behavioral Effects of Biomedical Interventions. Pub. 34, Aug. 2004. ARI, San Diego.

DIET	Better:Worse	# of Cases
Milk Free	32:1	5574
No Chocolate	30:1	1721
Wheat Free	29:1	3159
Feingold	25:1	758
No added Sugar	24:1	3695
Rotation	21:1	792
Gluten/casein free	20:1	1446
Egg-Free	19:1	1096
Yeast-Free	19:1	756

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## Intestinal dysbiosis

How does this happen?

- One theory is immune dysregulation.
- Other is toxic metals, esp Hg-mercury.

How do you treat this?

- Try testing to determine pathogen (yeast, clostridia, parasites, unfavorable bacteria), and try Rx or OTC treatments.

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## Immune responses:

TH 1 response = Cellular response = Attacks/kills invading cells/bacteria. Supported by **exposure thru mucous membranes**; antigen-presenting cells.

TH 2 response = Humoral response = Produces antibodies. Supported thru **percutaneous exposure**-> Increases in allergies, asthma, and autoimmunity.

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## What about Hg?

- Mercury is the most toxic, non-radioactive element on the planet.
- It remains detectable in the blood stream for only 3-6 weeks.
- As it leaves the blood it enters every organ and every cell and every subcellular organelle in the body.

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## Pandora's Box #1 = Toxic Metals

- National Academy of Sciences 2000:
- U.S. coal-fired power plants emit > **40 tons** (800,000 pounds) of mercury annually.
- While the overall risk of mercury poisoning was relatively low, vulnerable groups—like pregnant women and **developing children** — could suffer great harm.

The Mercury Policy Project - [www.mercurypolicy.org](http://www.mercurypolicy.org)

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## Pandora's Box - #2

- "On average, for each **1000 lb** of environmentally-released **mercury**, there was a 43% increase in the rate of special education services and a **61% increase in the rate of autism.**"

– "Environmental mercury release, special education rates, and autism disorder: an ecological study of Texas." **Health and Place**; 17 February 2005 ; U. Texas Health Science Center in San Antonio.

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## Pandora's Box - #3

- Show Calgary mercury video clip.

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## Pandora's Box – #4 Fish (yummy!)

- Higher organisms bioaccumulate Mercury, concentrating it 200,000 to 1 from environment.
- US EPA recommends ingestion of no more than **0.1mcg/Kg** body weight/day.
- A typical 6 oz (170 gm) fish = 42.5 mcg Hg, or **0.46 mcg/kg** body weight, or **2.43 mcg/kg** for swordfish.

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## Pandora's Box # 5 = Dental Amalgams:

- Average filling = 1 gram and is 50-55% Hg.
- The mercury in one filling would cause a 10-acre lake to be closed to swimming and fishing.
- Over 100 million new amalgam fillings placed each year (75-80% still).
- 50 million grams (or about 27.5 tons) of mercury are being newly placed into the mouths of patients every year.
- Stuart Freedenfeld, M.D  
[http://64.202.182.52/powerpoint/dan2004/Freedenfeld\\_files/v3\\_document.htm](http://64.202.182.52/powerpoint/dan2004/Freedenfeld_files/v3_document.htm)

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## Pandora's Box – #6 Dental Amalgams:

- A typical amalgam = 0.4cm surface releases ~17mcg mercury per day.
- 8 amalgams result in ~136 mcg of elemental mercury vapor daily.
- Of this, 80% gets absorbed every day by a pregnant mother during a 270-day pregnancy.
- 4590 mcg/filling given to the mother-fetus unit over the vulnerable 9 month gestation.

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## Pandora's Box #7 Dental Amalgams:

- Mercury levels in feces are 13-fold higher with dental amalgams, and these levels vary with the amount of amalgam surfaces.
- More than 25% of the original mercury is gone from dental amalgams after the first five years.
- Mercury is bio-concentrated by the placenta - it concentrates **8-fold in the fetus**.

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## Pandora's Box – #8 Dental Amalgams:

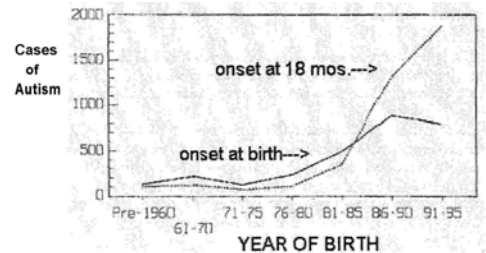
- **60,000 babies** per year in the US are born with neurodevelopmental disorders due to neonatal exposure to mercury.
- The EPA estimated that **1 baby in 6** is born with a blood mercury level that exceeds the Agency's safety threshold, or 300,000 infants/year.

*Env Health Persp* 112(5); 562-70.

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## ONSET OF AUTISM: Early onset versus regression (type I vs II)



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## Should you vaccinate your child?

**YES** - Vaccines are important,  
as long as they are done responsibly:

- Check to make sure there is no Hg thimerosal as the preservative.
- Make sure your child is not sick or on antibiotics when vaccinating.
- Check titers; don't boost if you have protective antibodies.

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## Vaccine safety?

U.S. House of Representatives Committee on Government Reform, Mercury in Medicines: Taking Unnecessary Risks? July 18, 2000.

- Confirmed the assertions that thimerosal in vaccines **has likely caused neurological damage to thousands of children**.
- Dr. Mark Geier's study 2003 - Confirmed CDC study (unreleased) showing a **RR = 2.48** between thimerosal exposure and neurological impairment.

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## Thimerosal in Childhood Vaccines

- Autism rates have risen:
  - 1 in 2,500 in mid-1980s
  - 1 in 300 in 1996 (none in Amish)
- A **2 to 6-fold increased incidence** of neuro-developmental disorders following additional 75-100 mg mercury dosage from thimerosal-containing childhood vaccines, versus thimerosal-free vaccines.
  - Journal of American Physicians and Surgeons*; 8 (1) Spring 2003; Mark Geier MD, PhD.

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## Thimerosal in Childhood Vaccines *Journal of American Physicians and Surgeons, Vol. 8, No. 1 Spring 2003*

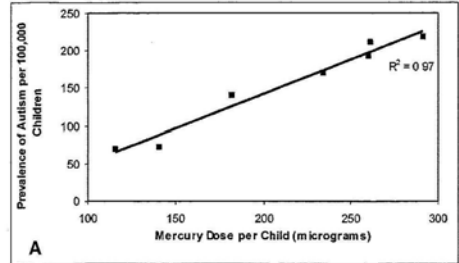


Figure 3A: Autism disabilities compared to average mercury dose from thimerosal.

## Thimerosal in Childhood Vaccines *Journal of American Physicians and Surgeons, Vol. 8, No. 1 Spring 2003*

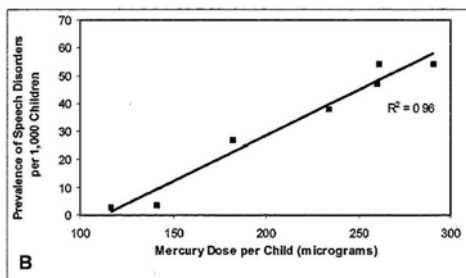


Figure 3B: Speech disorders reported, compared to average mercury dosage from thimerosal

## Thimerosal in Childhood Vaccines *Journal of American Physicians and Surgeons, Vol. 8, No. 1 Spring 2003*

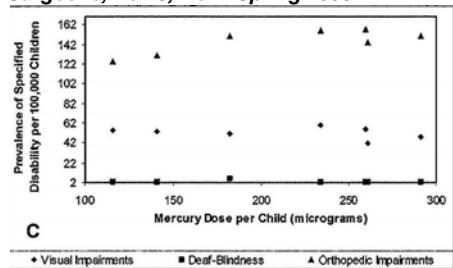


Figure 3C: Visual impairment, deaf/blind and orthopedic impairment compared to average mercury dosage from thimerosal



## Case Study – MMR vaccine in spinal fluid

- Three children with autism
  - Vaccinated with pharmaceutical MMR vaccine.
- Developed Ileal Lymphoid nodular hyperplasia
  - Strain of measles virus of vaccine type.
  - Found in cerebrospinal fluid.
    - Bradstreet, El Dahr et al. "Detection of measles virus genomic RNA in cerebrospinal fluid of children with regressive autism: a report of three cases." *J AmPhys Surgeons* 9 no. 2 (2004) 38 – 45.

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Donald W. Miller, Jr., M.D.: Prof of Surgery at Univ. of Washington in Seattle; member of Doctors for Disaster Preparedness; Cardiac surgeon; [www.donaldmiller.com](http://www.donaldmiller.com)

- No vaccinations until a child is two years old.
- No vaccines that contain thimerosal (flu?).
- No live virus vaccines (except for smallpox, should it recur).
- Give vaccines one at a time, every 3-6 mths, beginning at age 2:
- Pertussis (acellular), Diphtheria, Tetanus, Polio (the Salk vaccine).

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Vaccine safety and efficacy?  
Advice via Stephanie Cave, MD

- Do not give vaccines to ill children.
- Separate vaccines in time.
- Use thimerosal-free vaccines.
- Separate M, M, and R when available.
- Give vitamin C and vitamin A before vaccinations.
- Delay when possible.

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Vaccine safety and efficacy?  
via Stephanie Cave, MD

Vaccine Schedule:

- Birth-Hepatitis B **only if** mom is Hep B +.
- 4 months---Hib, IPV
  - 5 months---DTaP
  - 6 months---Hib, IPV
  - 7 months---DTaP
  - 8 months---Hib
  - 9 months---DTaP

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Vaccine safety and efficacy?  
via Stephanie Cave, MD

- 15 months---Measles
- 17 months---Hib, IPV
- 18 months---DTaP
- 27 months---Rubella
- 24 months---Prevnar--1 dose
- 30 months---Mumps

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Vaccine safety and efficacy?  
via Stephanie Cave, MD

- 4-5 years---Varicella ( if not immune already)
- 4-5 years---**Hepatitis B series**
- 4-5 years---DTaP, IPV boosters
- 4-5 years---Test titers for MMR and do not give unless not immune. Immunize only for vaccines found to be negative.

***“What Your Doctor May Not Tell You About Children’s Vaccines”***

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Vaccine safety and efficacy?  
via Stephanie Cave, MD

“The tragedy that we are seeing in these vaccine-injured children will continue until we change the content of the vaccines, the mode in which they are given, and the minds of those who believe that parents should not decide what is best for their children.”

***“What Your Doctor May Not Tell You About Children’s Vaccines”***

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History has a way of repeating itself:

- Pink Disease** - delayed onset of symptoms & 1/500 affected; symptoms included:
- pink hands, peeling pink hands, peeling skin, infections, irritability, poor muscle tone.
  - GI problems – diarrhea, constipation, encephalitis, tremors/seizures, sound/light sensitivity, immune system dysregulation.
- 50 years = it was Hg in teething powder!

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## Does heavy metal toxicity play a role in my child's condition?

Food for thought:

- Autism: A Novel form of Mercury Poisoning. *Med Hypotheses* 56(4): 462-71; Bernard, S. (2001).
- The Role of Mercury in the Pathogenesis of Autism. *Molecular Psychiatry* 7: S42-S43; Bernard, S. (2002).

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## "Apolipoprotein E genotyping as a potential biomarker for mercury neurotoxicity":

- A DMPS urine challenge appears to be a simple, inexpensive procedure that provides objective confirmatory evidence of mercury.
  - Michael E. Godfrey, M.D., New Zealand. *Journal of Alzheimer's Disease*; 5 (2003) pg 189-195. IOS Press

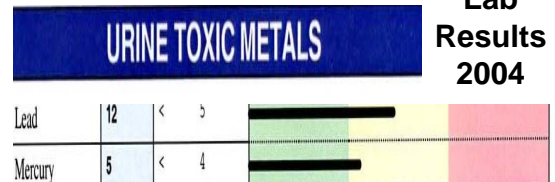
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Urine Toxic Elements	
Patient:	Jean A Biddle
Doctor:	James R. Biddle, MD
c/o:	Ashville Integrative Med
Collection Date:	30 Jun 2000
Date In:	5 Jul 2000

### Jean's Lab Results 2000

Lead	78	0 - 15	.....
Mercury	21	0 - 3	.....

### Jean's Lab Results 2004



Date Collected: 10/20/2004  
Provoking Agent: EDTA DMPS

### Elemental Analysis Hair

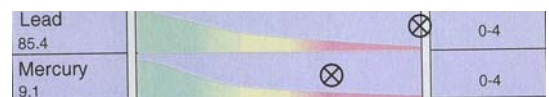
### Jim's Lab Results 1997

Lead 0.90		0-0.8
Mercury 2.38		0-0.95

Patient: James Biddle  
Collected: 10/17/1997

### Jim's Lab Results 1998



### Analysis Urine (24 Hour)



Patient: James Biddle  
Collected: 4/28/1998

## Elemental Analysis Hair

Jim's Lab Results 1999

Lead 0.85		0-1.4
Mercury 1.14		0-1

Patient: James Biddle  
Collected: 7/21/1999

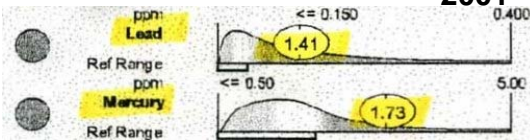


Mirabai Grace Biddle Tieman  
1998 - ?



## Elemental Analysis Hair


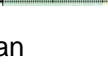
Mira's Lab Results 2001



Patient: Mira Tieman  
Age: 2 - Sex: Female  
Collected: 3/2/2001

## Elemental Analysis Hair

Mira's Lab Results 2005

Lead	1.2	< 1.0	
Mercury	0.23	< 0.40	

Patient: Mira Tieman  
Age: 7  
Sex: Female  
Collected: 6/27/2005



### Autism Research Review International 2003

Vol. 17, No. 2, page 1 & 3

- **Autism is treatable!:** An open letter to the FDA by Bernard Rimland, Ph.D. Autism Research Institute, San Diego CA
- The FDA, which has never approved a drug as useful in autism, now claims, according to its website, that dietary supplements are "unproven" and that parents who use supplements are the gullible victims of "marketeers."

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### Autism Research Review International, 2003,

Vol. 17, No. 2, page 1 & 3

- "The FDA has failed to do its homework. Its position is absurd and wrongly portrays autistic children as hopeless and untreatable."
- **"The FDA must reverse its deplorable, counter-factual position."**

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## What To Do? Reduce Toxic Exposure:

- Avoid amalgam fillings.
- Avoid Hg-containing fish.
- Avoid Hg-containing fish.
- Drink purified water.
- Eat organic real foods.

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## So..... What Else to Do?

- Basic lab tests.
- Gut rehabilitation.
- Nutritional support.
- Advanced lab testing.
- Heavy metal detox.

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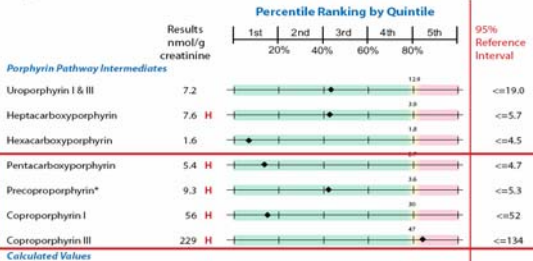


## Urine Porphyrin Testing

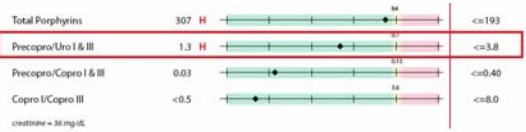
### 0060 Porphyrin Profile - Urine

Metabolology, Liquid Chromatography/Mass Spectrometry

#### Porphyrins Profile - Urine



## Urine Porphyrin Testing



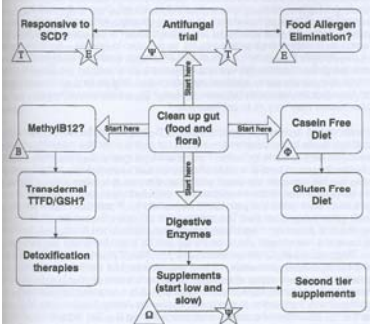
Case 3: A 3-yr-old autistic male with strong pattern indicating mercury toxicity

This report shows the full pattern of mercury interference, with Precopro, Penta, Copro III and Precopro/ Uro I&III ratio elevations.

Lord, Richard S. PhD and Terry A. Polluck. Metametrix 2007 Teleconference Series. Sept 2007. [www.metametrix.com](http://www.metametrix.com)

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△ This shape is the marker for this option and key to the text that describes that intervention.  
☆ This shape means if you see a *paradoxical* reaction from trying this then go to the option indicated by the enclosed symbol.



Scheme for considering options for diagnostic trials in children with Autism Spectrum Disorder.

> Bock, Kenneth and Cameron Stauth. *Healing the New Childhood Epidemics*. Ballantine Books, NY. 2007.



## Nutrients:

- Mg, Zn, Vit C, B6 (P5P), Se.
- EFA's as Hg-free fish oil.
- Vit D to 25-OH-D level >40 (<60-70).
- Iron until ferritin > 50 (<100).
- Avoid copper unless tested to be low.
- Probiotics and fiber.

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## Support Glutathione:

- Vit C, 250-500 mg BID
- Folinic acid, 400 mcg BID
- TMG, 500 mg BID
- B6 as P5P, 25 mg QD.
- Methyl-B12, 75 mcg/kg SQ BIW

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## ARI – Parent Rating of Treatments Survey Pub. 2005

# Better /Worse #	Treatment (# of Reports)
0.8	Adderall (475)
1.2	Prozac (1123)
1.3	Depakene - behavior (957)
3.0	Risperdal (616)
3.9	Vitamin B6 alone (620)
4.8	Depakene – seizures (627)
9.8	Nystatin (986)

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## ARI – Parent Rating of Treatments Survey Pub. 2005

# Better /Worse #	Treatment (# of Reports)
11.0	Diflucan (330)
11.7	Vitamin B6 with Magnesium (5780)
12.0	Folic Acid (1437)
15.0	Calcium (1378)
18.0	Vitamin C (1706)
19.0	Yeast-Free Diet
20.0	Gluten/Casein free diet

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## ARI – Parent Rating of Treatments Survey Pub. 2005

# Better /Worse #	Treatment (# of Reports)
20.0	Zinc (1244)
20.0	Digestive Enzymes (737)
23.0	Essential Fatty Acids (626)
23.0	Vitamin A (618)
30.0	Removing chocolate (1721)
32.0	Removing milk products (5575)
35.0	Detoxification (324)

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## Hyperbaric Oxygen Therapy

- Currently studied for effectiveness in treating:
  - gut and brain inflammation (may be separate issues or experienced simultaneously)
  - blood flow to key areas of the brain
  - dealing with gut parasites, yeast or bacteria
- Many parents find improvements with language and social skills.

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## DMSA = Succimer and Chemet 2,3-dimercaptosuccinic acid.

- FDA-approved for treating childhood chronic lead (Pb) poisoning.
- Affinity order: Lead, cadmium, mercury, silver, nickel, arsenic.
- Orally: 10 mg/kg, 3 times daily for 3 consecutive days every 2 weeks (3 days on then 11 days off).

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## DMPS 2,3-dimercapto-1-propane sulfonic acid.

- Affinity order: Mercury, lead, silver, cadmium, nickel, arsenic, antimony.
- **TD-DMPS** = 1 mg DMPS & 4 mg Glutathione per drop.
- Rashid Buttar D.O. used 1.5 mg/kg QOD.
- **Mainstreamed 19 of 31 autistic kids.**

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## “The Safety and Efficacy of Chelation Therapy in Autism” August 29, 2005

1. Chelation is not used to treat autism, but to treat heavy metal overload (lead, mercury, cadmium, etc), which is a major cause of autism and retardation.
2. Tens of thousands of children, and hundreds of thousands of adults, have been treated safely with chelation therapy for decades.
3. ....
4. ....

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## “The Safety and Efficacy of Chelation Therapy in Autism” August 29, 2005

5. Physicians critical of chelation, routinely use drugs such as Risperdal and Clonidine in treating autism. Death is a known side-effect of such drugs (read the labels!). Such deaths get no media attention.
6. The vast majority of autistic children are chelated orally or transdermally, as suggested in our Defeat Autism Now! (DAN!) document available at: [www.AutismResearchInstitute.com](http://www.AutismResearchInstitute.com)  
[www.autismwebsite.com/ari/dan/mercurymetaldetox.htm](http://www.autismwebsite.com/ari/dan/mercurymetaldetox.htm)

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## “The Safety and Efficacy of Chelation Therapy in Autism” August 29, 2005

7. “**Parent Ratings of Behavioral Effects of Biomedical Interventions.**” 24,000 responses since 1967. Of the first 400 parents who reported on **chelation**, **76%** report “good” results, which is by far the highest “good” percentage reported for any of the 88 biomedical interventions (including 53 drugs) the parents have rated. See: [www.autismwebsite.com/ari/treatment/form34g.htm](http://www.autismwebsite.com/ari/treatment/form34g.htm)

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## Applied Behavioral Analysis

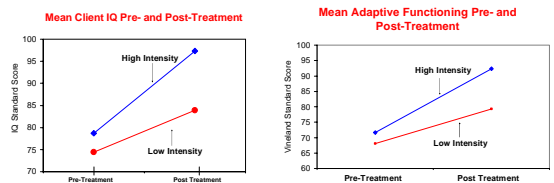
- What is ABA
  - Reducing challenging behaviors
  - Teaching new skills
  - Generalizing to Daily Living
- How?
  - Teaching tasks one-on-one using the behaviorist principles of stimulus, response, and reward.
  - Study behavior, antecedents, consequences.
  - Using reliable measurement and objective evaluation of observed behavior.

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## Effect of ABA therapy

- 1996 Study by Doreen Granpeesheh, Ph.D.. B.C.B.A
- Found higher functioning with ABA therapy.
- Confounding Variable – more children in high intensity group receiving biomedical interventions.



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## Long-term outcome for children with autism who received early intensive behavioral treatment.

- Experimental group = 19 preschool-age children with autism achieved less restrictive school placements, higher IQs than control group of 19 similar children by age (Lovaas, 1987).
- Follow-up assessment at mean age of 11.5 years.
- Experimental group preserved its gains over the controls.
- Eight were indistinguishable from average children on tests of intelligence and adaptive behavior.
- **Behavioral treatment may produce long-lasting and significant gains for many young children with autism.**
- McEachin JJ, Smith T, Lovaas OI. UCLA, Department of Psychology 90024-1563. *Am J Ment Retard.* 1993 Jan;97(4):359-72; discussion 373-91.

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## So... What to Do?

- Know your child best.
- Learn about the disorder.
- Be involved in medical decisions.
- Make wise choices about what might work best for your child — each child is different.
- Support groups!

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## References:

- Children With Starving Brains: A Medical Treatment Guide for Autism Spectrum Disorder  
by Jaquelyn McCandless
- Unraveling the Mystery of Autism and Pervasive Developmental Disorder: A Mother's Story of Research and Recovery  
by Karyn Seroussi

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## In-depth stories written by 31 parents:

### Treating Autism:

### Parent Stories of Hope and Success

Families who have used the Defeat Autism Now! biomedical treatments.

- Edited by Stephen M. Edelson, Ph.D. and Bernard Rimland, Ph.D.

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## ASD Support

- Autism Research Institute  
– [www.autism.com](http://www.autism.com)
- Defeat Autism Now!  
– [www.danconference.com](http://www.danconference.com)
- Talk About Curing Autism (Jenny McCarthy)  
– [www.tacanow.org](http://www.tacanow.org)

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## “Autism: What to Do?”

James Biddle MD  
Sharon Willingham MD  
Anne Walch PA  
John Paul McNeil PA  
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# Autism Alternatives: What to Do?

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