

**Raising a Healthy Child
in a Toxic World:
Prevention**

Anju Usman, MD

Prevention Track
Autism ONE
May 2011


Disclaimer

- Information is for educational purposes only
- Not to be taken as specific medical advice
- All medical decisions regarding your or your child's health issues should be discussed with your health care provider

**True Health
Medical Center**

A Biomedical,
Complementary,
Functional Approach

Autism
Allergies
Asthma
GI issues
ADD/HD



**RAISING A
HEALTHY CHILD
IN A TOXIC
WORLD**

With the rise of environmental toxins there has been an increased incidence of children experiencing health challenges such as allergies, digestive problems, difficulty focusing and delayed development.

Epidemic of Autism, Lots of Questions

- Latest United States statistics: 1 in 110 children, 1 in 70 boys
- Genetic Epidemic?
- What is causing the Rise in Autism?
- Where are all the autistic adults?
- Why are so many kids sick? Why more boys than girls?
- What could be happening to our environment that is triggering this epidemic?
- What does the future hold for our patients, families, communities?
- What will happen if we do not acknowledge this epidemic?
- What is the impact of every child that doesn't recover?

Alarming Statistics in Kids

- Approximately 17 percent of children have some type of developmental disability.
- ADD/ADHD is more common than Autism.
- Juvenile diabetes 1/400
- Childhood Cancer 1/300
- Asthma 1/10
- Allergic Rhinitis/Chronic Sinusitis 9%
- Food Allergy 6%, most common dairy, most fatal peanut

Rising Rates of Autism in California

- Study was led by Irva Hertz-Picciotto at the University of California Davis.
- Increased rates cannot be explained by migration to state or how and when doctors diagnose autism.
- Genetics do not change dramatically in such a short period of time.
- The culprits, according to Hertz-Picciotto, could be in "in the microbial world and the chemical world."

Epidemiology:
January 2009 - Volume 20 - Issue 1 - pp 84-90

What causes autism? Exploring the environmental contribution

Landrigan, Philip J
Current Opinion in Pediatrics: April 2010

Autism is a biologically based disorder of brain development.

Genetic factors – mutations, deletions, and copy number variants – are clearly implicated in causation of autism.

However, they account for only a small fraction of cases, and do not easily explain key clinical and epidemiological features.


This suggests that early environmental exposures also contribute.

Landrigan continued:

Indirect evidence for an environmental contribution to autism comes from studies demonstrating the sensitivity of the developing brain to external exposures such as lead, ethyl alcohol and methyl mercury.

But the most powerful proof-of-concept evidence derives from studies specifically linking autism to exposures in early pregnancy – thalidomide, misoprostol, and valproic acid; maternal rubella infection; and the organophosphate insecticide, chlorpyrifos.

POPs affect the whole planet



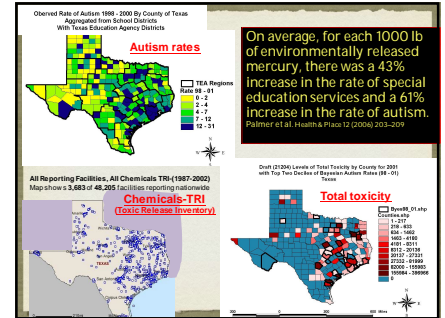
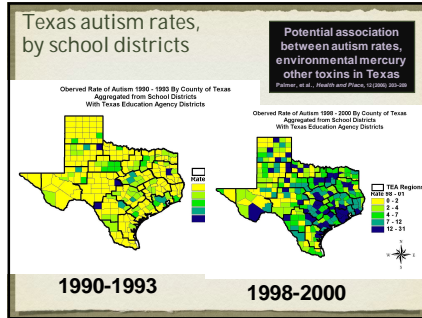
- 959 children from San Francisco Bay
 - Children with autism were more likely to be born in areas with high levels of mercury, cadmium, nickel, trichloroethylene and vinyl chloride
 - Living in areas with hazardous air pollutants during pregnancy or early childhood, associated with a 50% increased risk of autism
- 465 children with ASD in California Valley
 - ASD risk increased with the poundage of organochlorine applied and decreased with distance from field sites
 - An association between residential proximity to organochlorine pesticide applications during gestation and ASD was found

Environmental Health Perspectives(2007, 2008)

Association between indoor environmental factors and parental-reported autistic spectrum disorders in children 6-8 years of age.

Larsson, et al. NeuroToxicology, September 2009, 822-831.

An analysis of the associations between indoor environmental variables in 2000 as well other background factors and the ASD diagnosis indicated five statistically significant variables: (1) maternal smoking; (2) male sex; (3) economic problems in the family; (4) condensation on the windows, a proxy for low ventilation rate in the home; (5) PVC flooring, especially in the parent's bedroom.



Regulation of Environmental Toxins

Current regulatory approach is reactionary rather than precautionary.

Instead of taking preventive action when uncertainty exists, a hazard must be undisputedly demonstrated to be harmful before efforts are taken to remove the toxin from the market

The public bears the burden and cost of proving that a toxin is harmful.

2008-2009 Annual Report President's Cancer Panel

Toxic Substances Control Act (TSCA)

Governs the industry's use of chemicals

Passed by US Congress in 1976

Grandfathered in most existing chemicals

US EPA has only required testing for fewer than 200 of the 70,000-80,000 existing chemicals

US EPA has banned or limited production of only 5 chemicals or groups of chemicals since the enactment of the TSCA

Toxins and Children

"It is vitally important to recognize that children are far more susceptible to damage from environmental carcinogens and endocrine-disrupting compounds than adults."

"Ideally, both mothers and fathers should avoid exposure to endocrine-disrupting chemicals and known or suspected carcinogens prior to a child's conception and throughout pregnancy and early life, when the risk of damage is greatest."

2008-2009 Annual Report President's Cancer Panel

In Harm's Way: Toxic Threats to Child Development

Stein J, Schettler T, Wallinga D, Valenti J. Dev Behav Pediatr. 2002;Feb;23(1 Suppl):S13-22

The developing brain is uniquely susceptible to permanent impairment by exposure to environmental substances during time windows of vulnerability. Lead, mercury, and polychlorinated biphenyls (PCBs) have been extensively studied and found to impair development at levels of exposure currently experienced by significant portions of the general population.

High-dose exposures to each of these chemicals cause catastrophic developmental effects. More recent research has revealed toxicity at progressively lower exposures, illustrating a "declining threshold of harm" commonly observed with improved understanding of developmental toxicants.

For lead, mercury, and PCBs, recent studies reveal that background-population exposures contribute to a wide variety of problems, including impairments in attention, memory, learning, social behavior, and IQ.

POPs (Persistent Organic Pollutants)

Phthalates, Pesticides, Herbicides, Bisphenol A, PCB, PCBD, DDT...

- Endocrine Disruptors: substances that may at tiny doses interfere with hormonal signals that regulate human organs, brain development, and metabolism.
- Low Dose Hypothesis- No safe levels (parts per trillion have biologic effects)
- Difficult to detox, stored in fat indefinitely
- Damage DNA (affect DNA methylation) - 90% inherited
- Harm developing nervous system, during critical windows of development
- Gender bending chemicals, precocious puberty
- Alter brain structure, neurochemistry, behavior, reproduction and immune response in animals

Pesticides and ADHD

Pediatrics : May 17, 2010.


Children with higher levels of organophosphate pesticides in the urine were more likely to develop ADHD

Data from 1139 children

First study to examine health effects of pesticides in a large scale study of the general population.

Organophosphates are well known to cause damage to the nerve connections in the brain. That is how they work.

Common Insecticide Use and Delayed Mental Development



After the EPA Phased out the use of chlorpyrifos and other organophosphorus insecticides in 2000-20001, pyrethroid insecticide use became more widespread.

A recent prospective study at Columbia University investigated the potential effect of PBO compounds on development of young children.

Prenatal exposure to PBO was negatively associated with 36 month neurodevelopment.

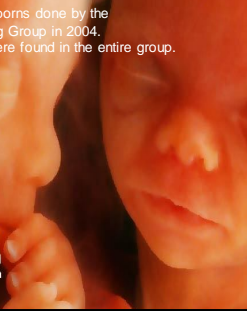
M. K. Horton, A. Rando, D. E. Camann, D. B. Barr, V. A. Rauh, R. M. Whyatt. Impact of Prenatal Exposure to PiperonylButoxide and Permethrin on 36-Month Neurodevelopment. *Paediatr Perinat Epidemiol*, 2011

BodyBurden

Small study of 10 newborns done by the Environmental Working Group in 2004. A total of 287 toxins were found in the entire group.

The Pollution in Newborns


A benchmark investigation of industrial chemicals, pollutants, and pesticides in human umbilical cord blood



Total Body Burden

- Mother's Burden
 - Toxic Metals
 - Environmental Pollutants
 - Electromagnetic Fields
 - Sensory Input
 - Stress/Internal Conflicts
 - Dietary Factors
 - Microbial/Biofilm
 - Immune/Inflammatory Burden

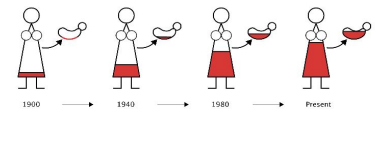
Mother's Burden



- Amalgams
- Fish Consumption (tuna)
- Rhogam
- Vaccines (Yazbak, 2004)
- Environmental and Occupational Exposures
- Pharmaceuticals (oral contraceptives, antibiotics)
- Comorbid Conditions
 - Lyme Disease
 - Fibromyalgia / Chronic Fatigue
 - XMRV, Rubella

Mother to Child Toxic Burden

Mothers' toxic burden is passed onto their child through gestation and breast-feeding at 60%



Developmental Immunotoxicology (DIT)

- Adverse effects from the environment, nutrition, maternal health, infections and nutrition, and genetics on the development of the immune system
- Programming= insults in utero during critical periods of development that has long term effects, pregnancy based experiences determine the health of the baby
- Fetal Origins= alterations in fetal nutrition and endocrine status that results in developmental adaptations that permanently change structure, development, physiology, and metabolism which predispose to adult disease

Hertz Piccolini. *Epigenetic exposures to persistent and non-persistent toxic chemicals and effects on immune system development*. Basic Clin Pharmacol Toxicol, 2008.

Dickert R R and J M Dickert. *Epigenetic for early life immune insult including developmental immunotoxicity in autism and other spectrum disorders: focus on critical windows of immune vulnerability*. J Toxicol Environ Health Part C Crit Rev, 2008.

Developmental Immunotoxicology Effects

- Th1/Th2 skewed immune system
- Deficiency of T regulatory cells
- Dysregulation of inflammatory cells
- Hyperinflammation
- Damage to a variety of systems and tissue
- Impaired maturation of dendritic cells
- Immunosuppression
- Autoimmunity: Allergies, Asthma, Diabetes
- Susceptibility to infections

Maternal Neuronal Antibodies Associated with Autism and a Language Disorder

Paola DiLillo, DPhil,¹ Robert Deacon, DPhil,¹ Andy Blamire, PhD,² Michael Pilo, FRCPsych,³ Ian McKinlay, FRCPsych,³ John Stein, FRCPsych,³ Peter Stykes, DPhil,¹ and Angela Vincent, FRCPsych¹

Available online at www.sciencedirect.com

ScienceDirect

BRISOL, BRISTOL, and GLANGLIS, UK

Maternal anti-brain antibodies in autism¹

Andrew W. Zimmerman ^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100}, Susan L. Conroy ^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100}, Karla I. Mattson ^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100}, Li-Ching Lee ^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100}, Harvey S. Singer ^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100}, Julian A. Costantini ^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100}, David A. Pearce ^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100}

Autism: Maternally Derived Antibodies Specific for Fetal Brain Proteins

Neurotoxicology, 2008 Mar;29(2):226-31

[Braunschweig D, Ashwood P, Eraković P, Hertz-Piccolini I, Hansen R, Cronin LA, Pessiah IN, Van de Water J.](#)

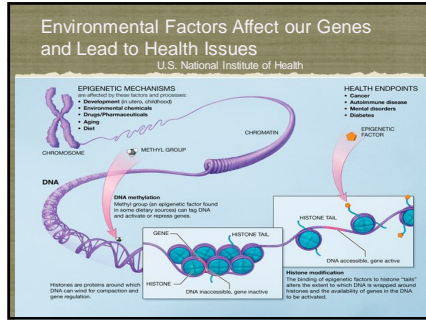
- Maternal plasma antibodies against human fetal and adult brain proteins were analyzed by western blot in 61 mothers of children with autism (AU) against fetal but not adult brain, which was not noted in either control group.
- We observed reactivity to two protein bands at approximately 73 and 37kDa in plasma from 7 of 61 (11.5%) mothers of children with autism (AU) against fetal but not adult brain, which was not noted in either control group.
- The presence of reactivity to these two bands was associated with parent report of behavioral regression.
- Individual reactivity to the 37kDa band was observed significantly more often in the AU population compared with TD (p=0.0086) and DD (p=0.002) mothers, yielding a 5.69-fold odds ratio (95% confidence interval 2.09-15.51) associated with this band.
- The presence of these antibodies in the plasma of some mothers of children with autism, as well as the differential findings between mothers of children with early onset and regressive autism may suggest an association between the transfer of IgG autoantibodies during early neurodevelopment and the risk of developing autism in some children.

Effect of Maternal Antibodies

Stereotypes and hyperactivity in rhesus monkey exposed to IgG from mothers of children with autism. *Brain Behav Immun*, 2008, 22(6).

Martin, L.A., et al.

- Exposed 4 monkeys with IgG antibodies derived from mothers of children with autism.
- 4 control monkeys were exposed with IgG antibodies from mothers of normally developing children.
- The ASD-exposed monkeys showed stereotypical behaviors and hyperactivity. The control monkeys did not.



DNA is NOT DESTINY

Jirtle and Waterland Duke University 2006

- Mice carrying the agouti gene are ravenous and yellow and prone to cancer and diabetes.
- Jirtle and Waterland's mice were slender and brown. They did not display their parents' susceptibility to cancer and diabetes and lived to an old age. The effects of the agouti gene had been virtually erased.
- How did they do this without changing a single gene????

Dietary factors can affect the expression of our genetics

- They changed the moms' diet!!
- A diet rich in methyl donors, including onions, garlic, beets, and in B12 and folate.
- Although the mothers passed along the agouti gene to their children intact,
- Thanks to their methyl-rich pregnancy diet, the negative effects of the agouti gene were never expressed.

Infertility and Metals

- Heavy metals have also been identified as factors affecting human fertility. Diagnosing and reducing the heavy metal burden of women improved the spontaneous conception chances of infertile women.
- Women with many dental amalgams had a higher incidence of miscarriages and a higher excretion of mercury when given the chelating agent DMPS (2,3-Dimercapto-1-propanesulfonic acid). It has been found that DMPS was a useful and complementary method to increase fertility compared to hormone therapy in infertile women.

Gerhard, J. Heavy Metals and Fertility. *J Toxicol Environ Health A*. 1998 Aug 21;54(8):593-611

Pre-Pregnancy

- Start working on cleaning up your environment
- Clean up your teeth - replace amalgams safely
- Make healthy dietary choices, such as organic, hormone-free food
- Labs: Copper/Zinc ratio, Vitamin D 25 OH, Cholesterol, Thyroid
- Consider DMPS/CaEDTA Challenge
- Detox Program: FIR sauna, exercise, colon cleanse, homotoxicology
- Supplement: Omega 3 EFA, Zinc, Probiotics

Pre-Pregnancy Do's and Don'ts

Do	Don't
<ul style="list-style-type: none"> Eat organic hormone free food Drink antioxidant rich teas Use stevia, raw honey, xylitol Go for walks and get some sunshine daily Use aluminum-free natural deodorant Use natural hennas to color hair Use cast iron, glass, or stainless steel cookware Use chemical-free cleaning products in your home 	<ul style="list-style-type: none"> Eat GMO food or pesticide laden Drink soda or alcohol Consume artificial sweeteners Be exposed to lawn chemicals or second hand smoke Use make-up or creams with parabens Use chemical dyes, perms or other hair treatments Cook with non-stick, Teflon, or aluminum pans Clean with ammonia, benzene, or strong chemicals

Pregnancy

- Find a holistic health practice to guide you during pregnancy and delivery as there are many decisions
- Avoid medications to the extent possible including acetaminophen
- Add calcium and prenatal vitamins to your daily supplement intake.
- Discontinue use of nail polish and any makeup (including lipstick) products that contain parabens and other toxins.
- Use fluoride-free toothpaste. And aluminum-free deodorant
- Avoid buying all brand new furniture, toys, and clothes for baby

Pregnancy Do's and Don'ts

Do	Don't
<ul style="list-style-type: none"> Yoga, engage in stress management techniques, like massages Get mercury-free RhoGAM Cook with organic coconut oil, and consume healthy fats, and cold pressed oil, use organic apple cider vinegar for salad dressing Drink kombucha, eat fermented foods, soak grains, and take probiotics Use a corded headset Run an air filter in your bedroom while you sleep, keep windows open Use homeopathics 	<ul style="list-style-type: none"> Start a rigorous exercise or detox program: sit in a sauna, or get dental work (no cleanings) Wait to discuss vaccine schedule, flu shots Eat fast food or seafood (especially tuna), consume food packaged in plastic or styrofoam, microwave food Talk on a cell phone without a headset or work with a laptop computer on your lap Under take major home renovations or buy new furniture Use Acetaminophen or OTC meds

Infancy

- Avoid the potential introduction of toxins, viruses, allergens, and heavy metals, pesticides and chemicals into their bodies.
- Consider an alternate, gradual vaccine schedule.
- If you have amalgams and plan to nurse, send a sample of your breast milk to a specialty lab for heavy metal testing.
- If you plan to use formula, use those containing DHA and pre-digested formulas.
- Use Organic baby food.
- Start feeding with organic rice cereal. Avoid the introduction of soy, gluten, or dairy until after the baby turns two years of age.
- For fevers under 101°, treat with a tepid bath or homeopathics for colds and viral ear infections.

Early Infancy Do's and Don'ts

<p>Do</p> <ul style="list-style-type: none"> Invest in an organic baby mattress, bedding, and pillows and hypoallergenic encasements Bathe your baby daily in warm filtered water, massage to stimulate lymph with organic oil Feed with all organic and hormone-free products. Soak grains. Feed baby using glass bottles Walk outside with baby to get 10 to 15 minutes of sunshine daily Run an air filter in baby's bedroom 	<p>Don't</p> <ul style="list-style-type: none"> Clothe the baby in pajamas soaked in flame retardant chemicals Use "baby products" on the skin as such baby powder and oils Feed baby from plastic bottles or cups or microwave formula or breast milk Use sunscreen on baby Take your infant into polluted locations or over populated areas
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Our Challenge

How do we make wise choices to protect our children's health in the setting of an epidemic of ASD, insufficient scientific data regarding the impact of environmental toxins on health, and a flawed regulatory system?

Precautionary Principle

- Caution in advance
- Caution in the setting of uncertainty
- "Better safe than sorry"

Wingspread Statement, 1998: "Therefore, it is necessary to implement the Precautionary Principle: When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established."

Use of this approach is especially prudent for children suspected of being vulnerable to environmental toxins.

Basic Strategy to Reduce Toxic Burden in Kids

- History and Physical Examination
- Laboratory Testing
- Clean Up
 - Environment
 - Diet
 - Gut
- Support Natural Detoxification Pathways
- Chemical and Metal Detox

Clean up the Child's Environment

- Use natural, biodegradable and perfume free detergents and cleaning agents, do not dry clean clothes. Avoid chlorine: use water filters, limit pool and hot tubs.
- Wear 100% cotton clothes, avoid flame retardants. (SA)
- Use fluoride-free toothpaste (tin, titanium)
- Use an air purifier, especially in the bedroom.
- Avoid prolonged exposure to batteries (light up shoes, lap tops, cell phones, head phones).
- Check for recalled TOYS and DISHES with lead.
- Use aluminum-free salt, baking powder, deodorant. Do not cook in aluminum foil or drink from aluminum cans.
- Avoid use of herbicides or pesticides or mosquito repellants, on lawns, garden, or self (remove shoes when home).
- Use natural shampoos, soaps, and make-up (lipstick-Pb/AI)
- Avoid sources of electromog/(EMF), especially in the bedroom. (cordless phones, wi-fi, baby monitors)

Environmental Working Group Top 6 For Kids

- Use fewer products and use them less often.
- Don't trust the claims.
- Check ingredients. Buy fragrance-free products.
- Avoid the use of baby powder on newborns and infants.
- Do your homework at EWG's Cosmetics Database.
- Always avoid EWG's top 7 chemicals of concern for kids:

2-Bromo-2-Nitropropane-1,3 Diol	BHA
Boric acid and sodium borate	Dibutyl phthalate & toluene
DMDM Hydration	Oxybenzone
Triclosan	

EWG: <http://www.ewg.org>

Eating healthy for the Whole Family



Clean up the Diet

- Casein-free/Gluten-free/Soy-free/Diet Trial for 3-6 months.
- Avoid sugar and refined starch, replace with whole grains
- Maximize antioxidants and phytonutrients.
- Limit processed and preserved foods; organic is best.
- Avoid excitotoxins (ex. Caffeine, MSG, NutraSweet, red/yellow food dyes, nitrates, sulfites, glutamates, propionates, benzoates).
- Limit intake of phenolics (apples, grapes, strawberries...)
- Drink plenty of clean filtered water.
- Never microwave in plastics or Styrofoam, do not store food in plastic or foil, or cook on Teflon coated pans.
- Eliminate seafood.
- Add good fats (avocado, olive, coconut, flax). Avoid fried foods, hydrogenated, trans-fats and esterified fats.
- Buy hormone-free, antibiotic-free, grass fed organic meat and eggs.
- Avoid use of GMO (genetically modified)
- Add fermented foods (kefir, kombucha, cabbage...).

Food additives and hyperactive behavior in 3-year-old and 8/9-year-old children in the community: a randomized, double-blinded, placebo-controlled trial

- The Lancet, 2007
- Examined the effect of artificial coloring and preservatives on hyperactive behavior in children. After consuming an additive-free diet for six weeks, the children were given either a placebo beverage or one containing a mix of additives in two-week intervals. **In the additive group, hyperactive behaviors increased.**
- The study caused many pediatricians to rethink their skepticism about a link between diet and A.D.H.D. **The overall findings of the study are clear and require that even we skeptics, who have long doubted parental claims of the effects of various foods on the behavior of their children, admit we might have been wrong.** * reported a February Issue of AAP Grand Rounds, a publication of the American Academy of Pediatrics.

THE LANCET Volume 377, Issue 9764, Pages 494-503, 5 February 2011

Effects of a restricted elimination diet on the behaviour of children with attention-deficit hyperactivity disorder (INCA study): a randomized controlled trial

- In a group of young children diagnosed with ADHD, almost two thirds who followed a restricted elimination diet experienced a significant reduction in ADHD symptoms and oppositional defiant behavior. Going off the diet led to relapse of symptoms.
- The restricted diet consisted of rice, meat, vegetables, pears, and water.
- Investigators recommend that diet therapy should be considered for all children with ADHD.

Genetically Modified Foods


GM plants create toxins, react to weather differently, contain too much or too little nutrients, become diseased or malfunction and die.

When foreign genes are inserted, dormant genes may be activated or the functioning of genes altered, creating new or unknown proteins, or increasing or decreasing the output of existing proteins inside the plant.

The effects of consuming these new combinations of proteins are unknown.


Soon after GMO soy was introduced soy allergy increased by 50%.

Milk from rBGH-treated cows contains an increased amount of the hormone IGF-1, which is one of the highest risk factors associated with breast and prostate cancer.



Avoid Genetically Modified Foods

- Stick to organics.
- Foods labeled as organic cannot be genetically modified.
- Avoid the most common genetically modified foods unless specified as organic or non-gmo:
 - Corn
 - Canola
 - Cottonseed
 - Soy



Download the True Food Shopper's Guide to avoiding GE foods, updated for 2011, or get the True Food Shopper's Guide mobile application for iPhone and Android.




What is wrong with our food?

- Pesticides
- Animals are largely corn fed
- GMO (Genetically Modified Food)
- Chemicals, Dyes, Preservatives, MSG
- High Fructose Corn Syrup
- Partially Hydrogenated Fats (Trans Fats or Oxidized Fats)
- Antibiotics and Hormones in Meat and Dairy
- Packaged and preserved foods, lack antioxidants, contain excitotoxins

The Washington Post, Jan 26 2009


Study Finds High-Fructose Corn Syrup Contains Mercury



Mmm...Donuts! Mmm...High Fructose Corn Syrup with Extra Mercury!!!


- Almost half of tested samples of commercial high-fructose corn syrup (HFCS) contained mercury, which was also found in nearly a third of 55 popular brand-name food and beverage products where HFCS is the first- or second-highest labeled ingredient, according to two new U.S. studies.
- On average, Americans consume about 12 teaspoons per day of HFCS, but teens and other high consumers can take in 80 percent more HFCS than average.
- In the first study, published in current issue of *Environmental Health*, researchers found detectable levels of mercury in nine of 20 samples of commercial HFCS.

Drugs in Our Water Supply



- An Associated Press investigation conducted in 2008 found detectable levels of numerous drugs in the water supplies of 24 major metropolitan centers.
- Drugs found included antibiotics, painkillers, mood stabilizers, and sex hormones.
- Most drinking water facilities are not equipped to test for pharmaceutical medications.
- Drugs, unlike other contaminants, were designed specifically to have action in the human body.
- The effect of chronic, low level exposure to multiple drugs is unknown.

Is Bottled Water Worth the Cost?



EWG conducted a comprehensive test of 10 major brands of bottled water.

Chemical contaminants in every bottle tested, at levels no different than routinely found in tap water

Wal-Mart and Giant contained contaminants at levels that exceeded state standards or voluntary industry guidelines.

Currently, tap water suppliers are held to stricter standards than bottled water companies are. Bottled water companies are not required to disclose levels of contaminants, filtration techniques, and source water.

Drinking Water

Drink filtered water instead of tap or bottled water.

If you choose to drink bottled water, spring water in a glass bottle is the best choice.

Use safe water containers. Either BPA free plastic or stainless steel bottles.

Do not discard your medications in the toilet or down the sink.

Do not use fluorinated water for making infant formula.

Shoppers Guide to Pesticides

From the Environmental Working Group



Dirty Dozen Buy Organic	Worst	Clean 15	Lowest in Pesticides
1. Celery		1. Onions	
2. Peaches		2. Avocado	
3. Strawberries		3. Sweet Corn	
4. Apples		4. Pineapple	
5. Blueberries		5. Mangos	
6. Nectarines		6. Sweet Peas	
7. Bell Peppers		7. Asparagus	
8. Spinach		8. Kiwi	
9. Kale		9. Cabbage	
10. Cherries		10. Eggplant	
11. Potatoes		11. Cantaloupe	
12. Grapes		12. Watermelon	
		13. Grapefruit	
		14. Sweet Potato	
		15. Honeydew Melon	

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Gut Clean Up Strategies

- Address Maldigestion
 - Add Digestive Enzymes
- Address Malabsorption
 - Add Probiotics, Essential Fatty Acids
 - Address Fat Soluble Vitamin Deficiencies (A, D, E, K)
- Address Dysbiosis and Pathogenic Biofilms
- Diagnose and Treat Immune Dysregulation
 - Address Food Hypersensitivities
 - Treat Immunodeficiencies
 - Treat Chronic Inflammation
- Address Motility/Constipation

Natural Ways to Improve Detox

Elimination (Kidneys)

- Drink filtered, clean water
- Alkalanize what you drink
 - Add some lemon or apple cider vinegar to your water
 - Drink electrolyte water
 - Cranberry juice
 - Alkaline foods- green leafy veggies, dandelion, yummy!!!

Lymphatic Drainage

- Exercise
- Sweating/Sauna
- Bouncing, Trampoline
- Massage
- Body brushing

Natural Ways to Improve Detox


Elimination (Gut)

- Fiber-Prebiotics
- Fluids
- Probiotic rich/fermented foods
- Raw enzyme rich foods (pineapple and papaya)
- Apple cider vinegar/honey 1Tsp with each with water

Liver Support (Detoxification)

- Antioxidants, B vitamins, Minerals...
- Herbs – milk thistle, burdock, artichoke,...
- Nutrients that support Detox- methyl B12, folinic, glutathione
- Epsom Salts Baths
- Sulfur rich foods (onion, garlic, eggs, leeks, broccoli)

Speak up for Our Children




The Kid-Safe Chemicals Act would require that all chemicals be proven safe for children before they can be sold. It would also shift the burden for proving chemicals are safe from the EPA to the manufacturers.

Show your support by signing the petition at the Environmental Working Group site and calling your representatives.

Thank you for taking the time to help your whole family!

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