

Autism Therapies Made Easy

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The Face of Autism : The triad

- Lack of Communication
- Lack of Socialization
- Repetitive Behavior

AUTISM

Persons with autism may possess the following characteristics in various combinations and in varying degrees of severity.



Inappropriate laughing or giggling



No real fear of dangers



Apparent insensitivity to pain



May not want cuddling



Sustained unusual or repetitive play; Uneven physical or verbal skills



May avoid eye contact



May prefer to be alone



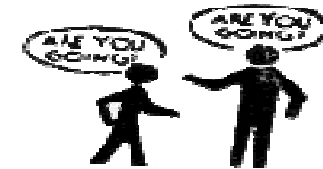
Difficulty in expressing needs; May use gestures



Inappropriate attachments to objects



Insistence on sameness



Echoes words or phrases



Inappropriate response or no response to sound



Spins objects or self



Difficulty in interacting with others

<http://stgabss.net/SpecialNeeds/index.php/learning-disabilities/autism.html?showall=1>

The Heart of Autism

- Loving individual
- Caring/Concerned Family
- Differently-abled Individual
- Simple approach to life

Traditional Treatments for Autism

- Applied Behavioral Analysis (ABA)
 - Teaching method that focuses on teaching the individual a particular skill. (it is a reward based system)
 - School and therapists use this method to work with the individual
 - Considered a behavioral therapy

Treatments of Autism

- Developmental Interventions
 - Developmental intervention relationship
 - Ex. Floor time
 - Therapy or teaching method that uses the individual's own interest to build communication. "Get into the individuals world"
 - TEACCH
 - A method to help individuals understand their environment. It uses a structured way to teaching- It takes into consideration, physical environment, scheduling of activities, routines, expectations

Treatments of Autism

- Speech Therapy
 - Most individuals have an issue with speech. (it is not always obvious), a speech therapist can work with the individual to develop speech and/or communication
- Occupational Therapy
 - Helps daily living skills
 - Helps to improve delays fine motor skills (ie holding a pencil, using a scissors)
 - Less sensitive to sounds, touch, light.
 - Therapists works with the individuals through sensory integration

Treatment of Autism

- **Social Skills Therapy**
 - Social skills therapists help individuals (those with poor communication or social skills) connect and interact with their peers
- **Play Therapy**
 - Specialized therapists use “play” as a tool to help the individuals build on communication, speech and social skills
- **Physical Therapy**
 - Individuals with poor muscle tone (usually weak) work with the therapist to build up strength, coordination and basic sports skills

Alternative Treatments for Autism

- Auditory Integration Therapy
 - Retraining the ear to become less sensitive to sounds (Called listening programs, Tomatis, Berard)
 - Report on improved understanding, hearing
- Hyperbaric Oxygen Therapy
 - Traditionally used to improve blood supply to certain areas. Used for wound care to help wound healing (diabetics with foot gangrene), heart problems
 - Provides oxygen to brain and other areas to inflammation.
 - Individuals become more alert

Alternative Treatments

- Neurofeedback-retraining of the brains.. It improves brain function by reducing slow brainwaves patterns.-it improves language, social skills
- Accupuncture- restoring the balance between the mind and body
- Chiropractor –restore the imbalance in the sensory/musculoskeletal system

**The less known but critical
variable**

Biomedical Treatments

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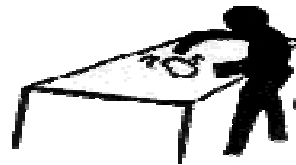
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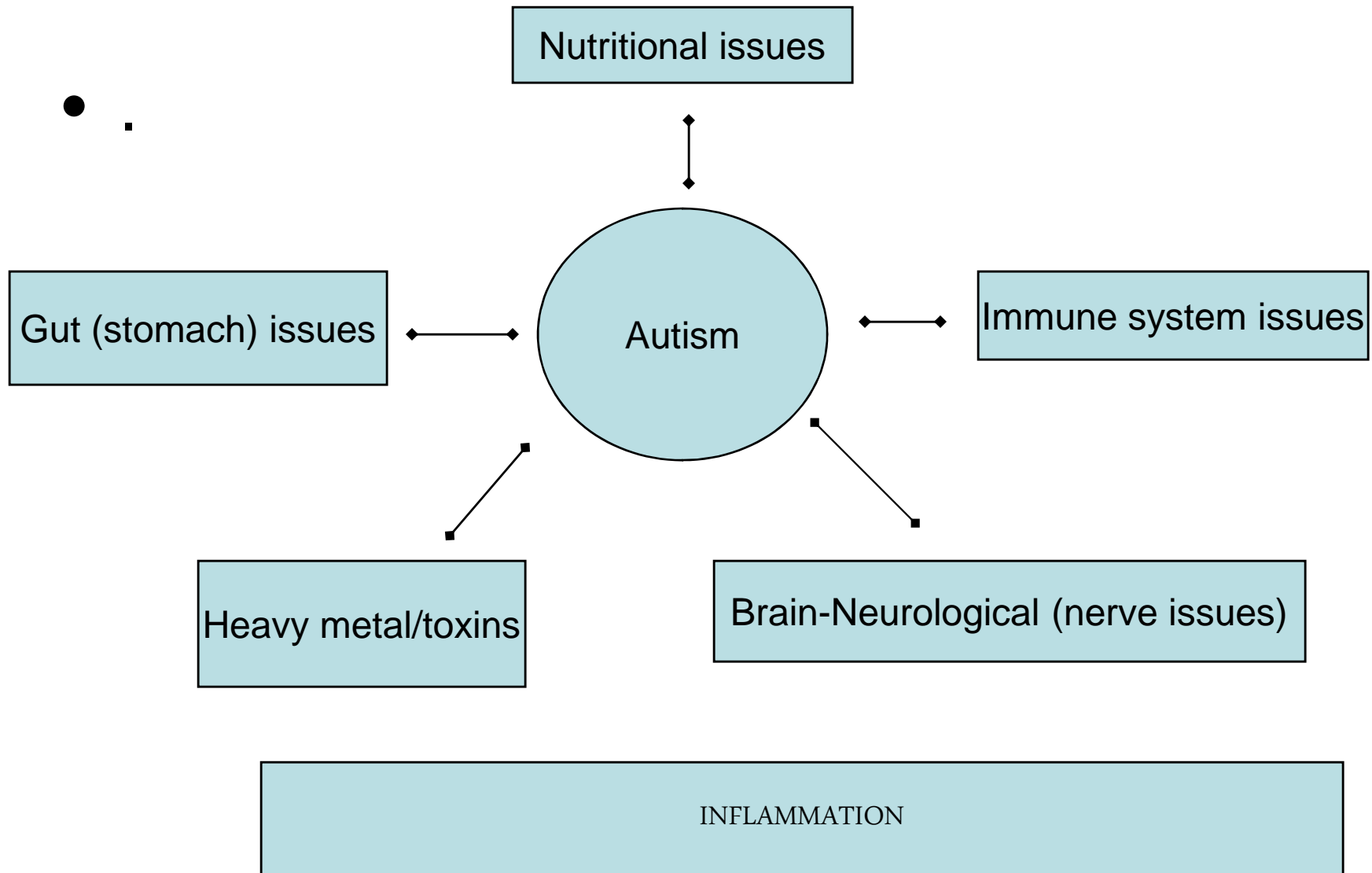
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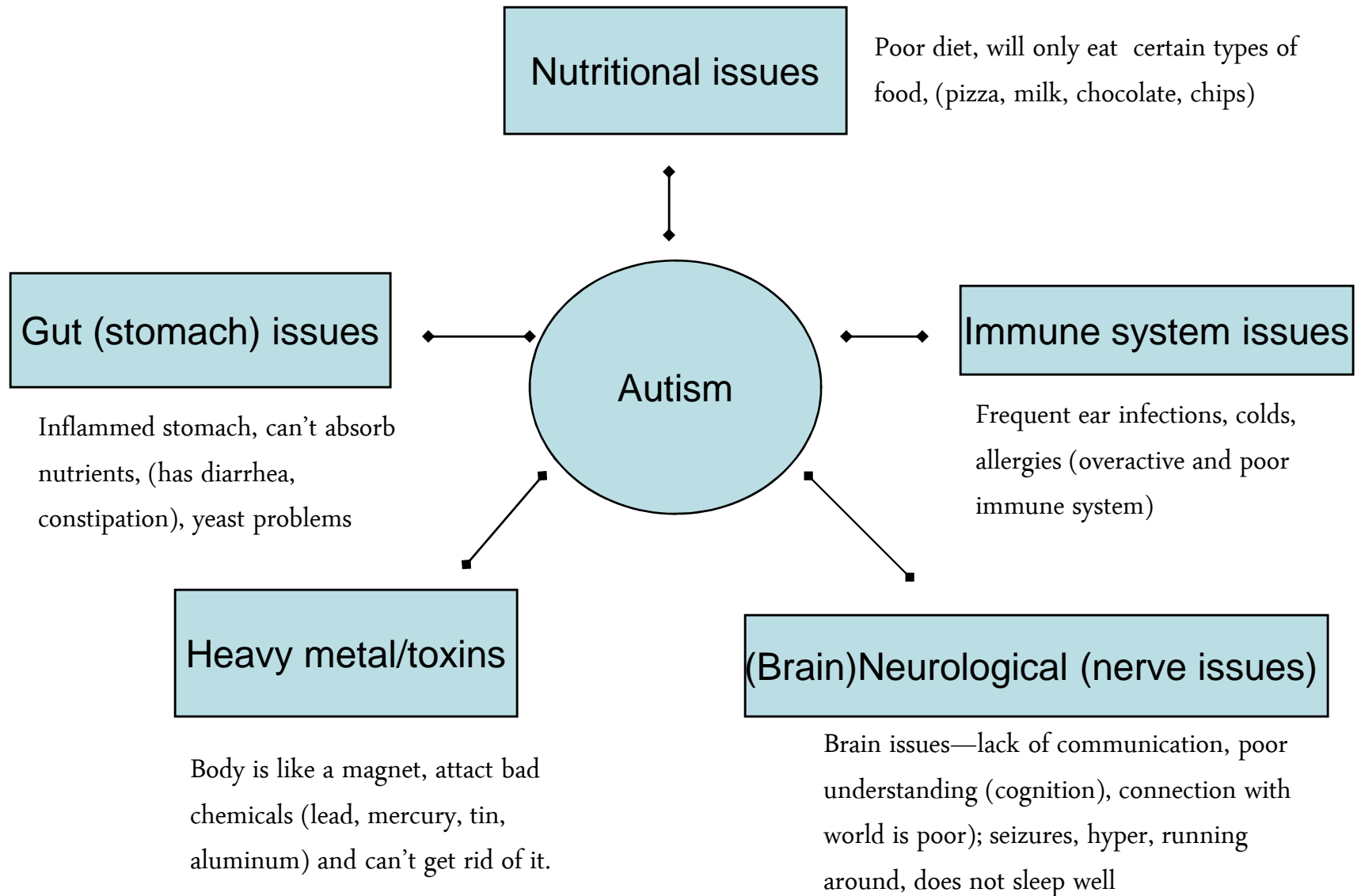
The “Stucked” Wheel

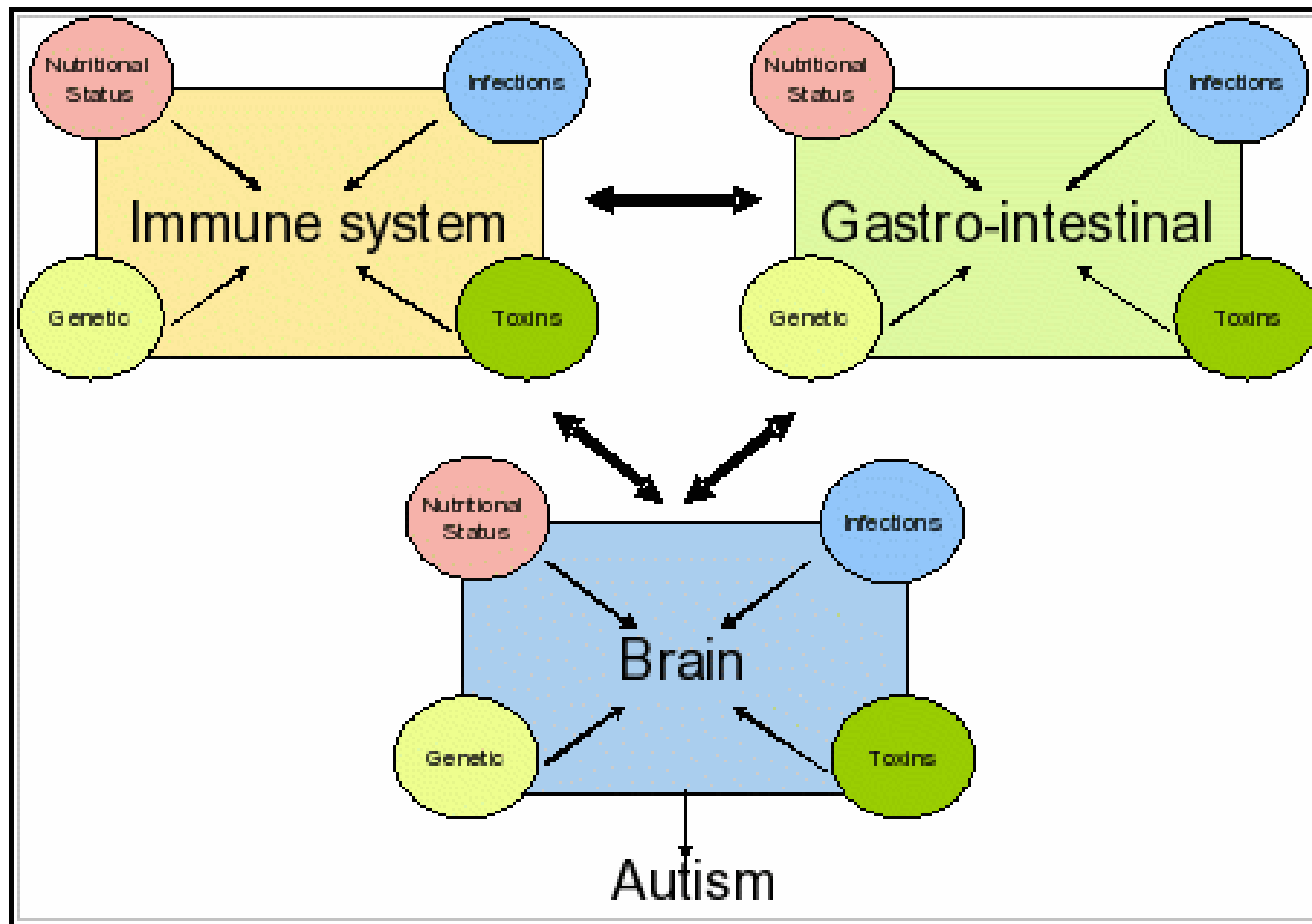


Biomedical

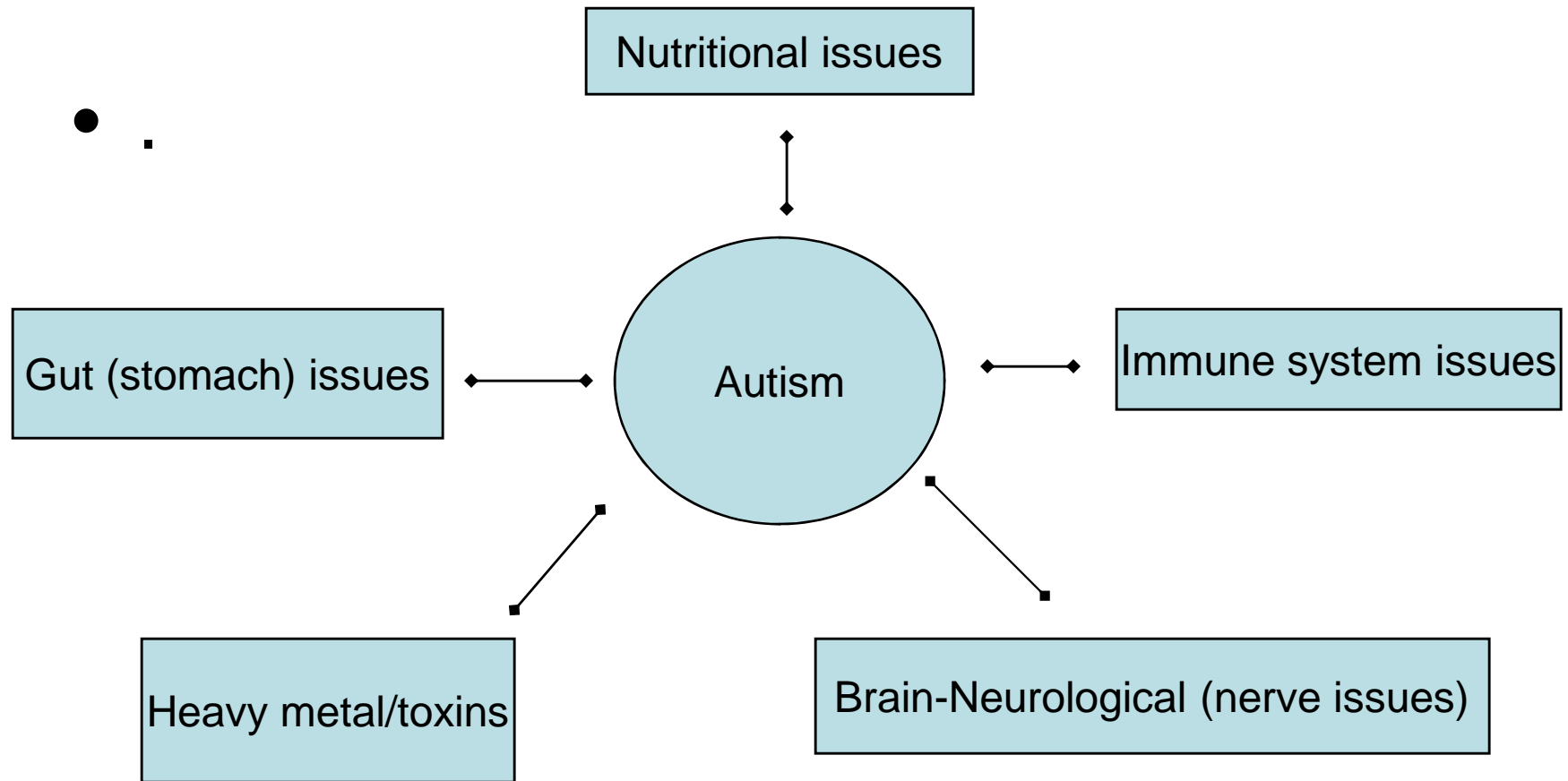
- Identifying and treating certain imbalances in the body
- It includes diet changes
- Nutrient replacements
 - Vitamins, minerals
- Removing toxins

The “Stucked” Wheel



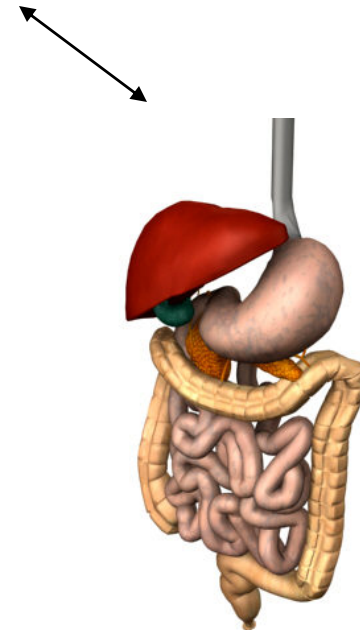


Getting the Wheel to move



Brain-Gut disorder—A vicious Circle

- Breakdown of certain foods affect the brain



<http://www.cbc.ca/health/story/2007/09/27/autism-study.html>

What about the diets ?



Nutritional Issues

Major nutrients for body are:

vitamins, minerals, amino acids (from protein) and essential fatty acids

Vitamin/Mineral deficiencies are common in autism, possibly due to inflammation of gut (cannot properly digest and absorb nutrients)

Tapan Audhya evaluated over 100 children with autism vs. typical children, and found low levels of almost all vitamins and several minerals

One small study of a multi-vitamin/mineral supplement by our group found significant improvements in GI and sleep problems

Parent rating of effect of supplements

BIOMEDICAL/ NON-DRUG/ SUPPLEMENTS	Parent Ratings				
	Got worse	No effect	Got better	Better: worse	No of cases
Transfer Factor	10%	48%	42%	4.3:1	174
Vitamin A	2%	57%	41%	18:01	1127
Vitamin B3	4%	52%	43%	10:01	927
Vit. B6/Mag.	4%	48%	48%	11:01	6634
Vitamin B12 (oral)	7%	32%	61%	8.6:1	98
Vitamin B12 (oral)	107%	132%	161%	8.6:2	99
Zinc	2%	47%	51%	22:01	1989

Dairy and Wheat

- Karl Reichelt (Norway) discovered abnormal peptides (proteins) in children with autism
- Source was casein (dairy) and gluten (wheat rye, barley)
- Casein or gluten molecules not digested into amino acids (due to inactive enzyme DPP-IV)
- “Leaky gut” allows undigested gluten/casein to enter bloodstream
- Casein and gluten act like opioid (heroin, morphine) on brain
- Results replicated many times by Reichelt and by Cade (Un. Florida)

Gluten-Free, Casein-Free Diet

- **Total, 100%** elimination of gluten and casein from diet helps 50-75% of autistics
- A single bite of a cookie can cause problems for days
- Many foods contaminated (wheat flour on raisins, barley in Rice Dream, etc.)
- Digestive enzymes help, but only half as effective as diet
- Corn and soy may also cause problem
- See www.autismndi.com

Difficult but worth it!

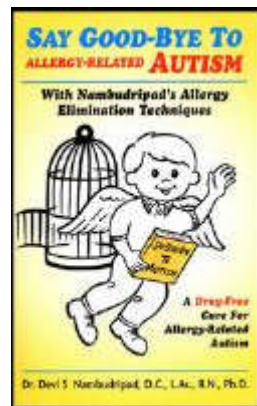
Diet Works

SPECIAL DIETS	Got worse	No change	Got better	Better: worse	no of cases
Candida Diet	3%	41%	56%	19:01	941
Feingold Diet	2%	42%	56%	25:1	899
Gluten- /Casein- Free Diet Removed	3%	31%	<u>66%</u>	19:01	2561
Chocolate	2%	47%	51%	28:1	2021
Removed Eggs	2%	56%	41%	17:01	1386
Removed Milk					
Products/Dairy	2%	46%	52%	32:1	6360
Removed Sugar	2%	48%	50%	25:1	4187
Removed Wheat	2%	47%	51%	28:1	3774
Rotation Diet	2%	46%	51%	21:01	938
Specific Carbo- hydrate Diet	7%	24%	69%	10:01	278

There are Substitutes



What about the Immune system issues (allergies, infections)?



Allergies: An overactive immune system

Ari Vodjani (Immunosciences) found that 50% of children with autism have food allergies

Probably due to leaky gut allowing food particles to enter bloodstream, where immune system reacts to it

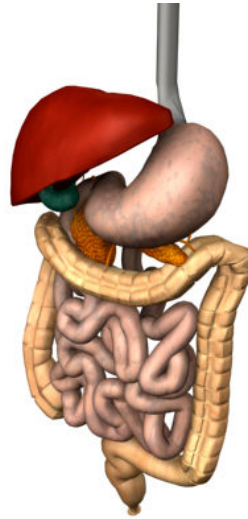
Check for red cheeks and ears, dark spots under eyes

Eliminating allergic foods helps, but also need to heal gut

Chronic infection: Weakened immune system

- Report that ear infections are more frequent in autistic children
- Heal the Gut
- Give lots of anti-oxidants
 - Vitamin C
 - Cod Liver Oil
 - Oil of oregano
 - Zinc
 - Gluthathione

Stomach (gut) issues



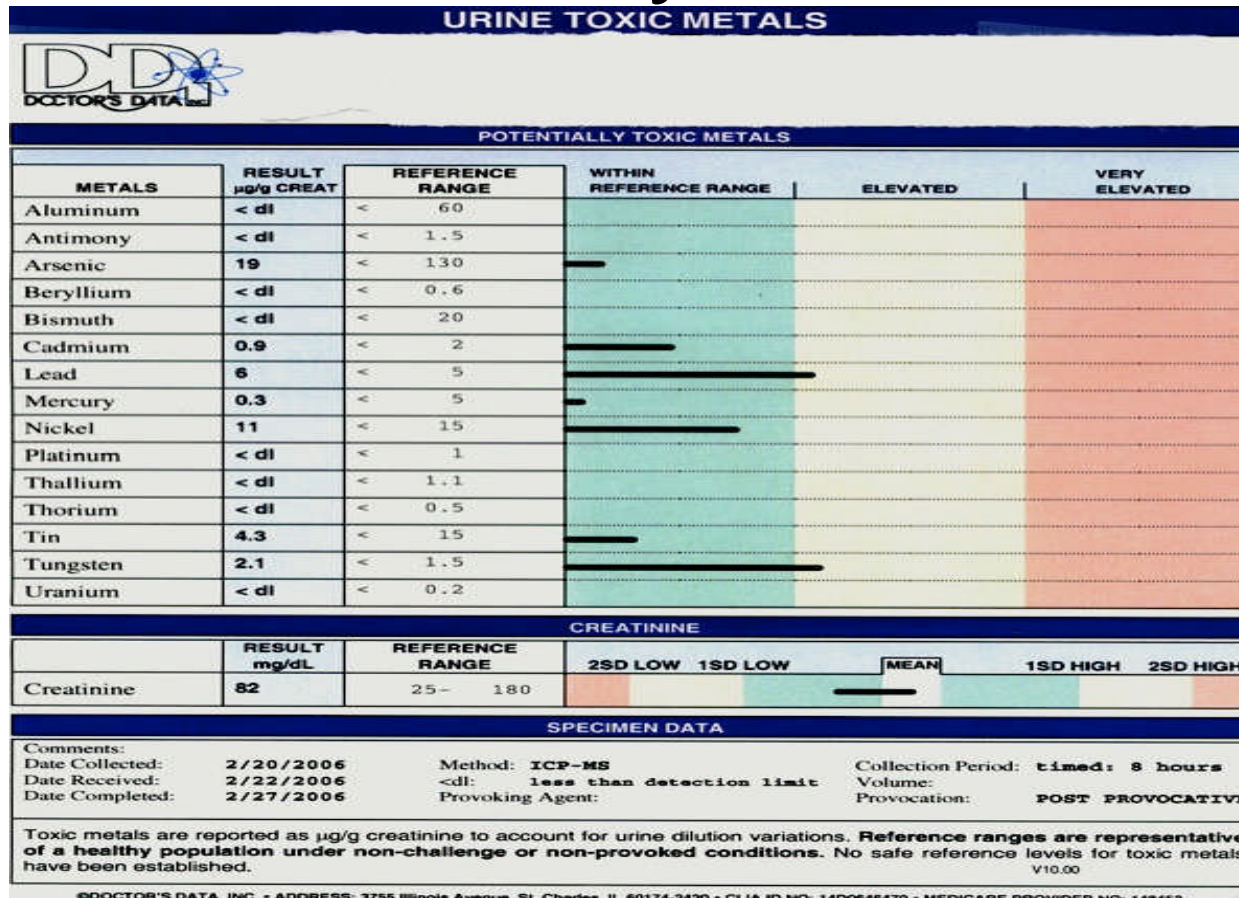
Stomach Inflammation

- Andrew Wakefield has carried out endoscopies of over 150 children with autism and chronic constipation/diarrhea in United Kingdom
- Consistently finds inflammation throughout GI tract, and especially in terminal ileum (where nutrients are absorbed)
- Often large constipated mass of stool blocking GI tract (imagine grapefruit in garden hose); diarrhea is leakage around constipation
- Drs. Tim Buie and Arthur Krigsman have confirmed these findings in over 500 children in US

Looking at the Gut

- William Shaw, a PhD biochemist, noticed abnormal organic acids (chemicals) in urine of children with autism—this can be measured
- Determined organic acids were waste product of intestinal yeast and/or bacteria --DYSBIOSIS
- Treatment with antibiotics (or probiotics) reduced bacteria metabolites
- Treatment with antifungals (Nystatin or Diflucan) reduced yeast metabolites
- Low-sugar diet also necessary
- Reduction of bacteria and/or yeast often greatly improved behavior (imagine effect of alcohol on brain)

What about Heavy metal and toxins



Body can't get rid of toxins— because there are proteins (enzymes) responsible for promoting elimination..

These protein are not functional----

Mercury Exposure: Major Sources

- Seafood: larger fish have most mercury, due to eating smaller fish
- Vaccines: many childhood vaccines used to contain 12.5-25 ug of thimerosal, so that a fully-vaccinated child could receive up to 237.5 ug of thimerosal injected into them
- Dental amalgams: usually emit 1-10 ug/day; amount of mercury in brain strongly correlated with number of dental fillings; could release much more when first placed or removed

Study by Dr. James Adam

Participants

- 53 children with ASD ages 3-15 years, chosen from Phoenix ASA mailing list
- 48 typical children chosen from their friends/neighbors (unrelated), same age and sex

Methodology

- heavy metal exposure questionnaire
- hair analysis
- dental exam

Results of Heavy Metal Questionnaire

Caveat: mostly based on mother's memory

Seafood: 58% of ASD mothers consumed more than 2 servings/month during pregnancy/breastfeeding, compared to 33% of controls;
yields a 2.7x relative risk of ASD ($p < 0.02$);
presumably mercury in the seafood is the major problem

Results of Heavy Metal Questionnaire (cont.)

Ear Infections: during first three years of life:

ASD: 11x

controls: 4x

median: ASD 10x

controls: 2.5x

p=0.00006

Symptom or cause?

1) could be an indication of weakened immune system

2) In a study of rats given high doses of oral antibiotics (Rowland, *Archives of Environmental Health* 1984: 39(6); 401-408), half-life for excretion of mercury increased from 10 days to >100 days; if also on milk diet, >300 days

(possibly due to yeast/bacterial overgrowth, which can last for years in children with autism)

Conclusions by Dr. James Adams study

Seafood consumption > 2 servings/month yields 2.7x risk

Ear infections > 8x (first 3 years) yields 8x risk ; antibiotics greatly reduce mercury excretion

Pica (chewing of inappropriate objects) is common in ASD (major source of heavy metals)

Vaccine reactions are more common in ASD

Hair data suggests an impairment in mercury excretion, especially in infants

DMSA results strongly suggest children with autism cannot excrete heavy metals;

Overall, mercury and other metals appear to be a major risk factor for ASD

Bernard et. al. “Autism: A Novel Type of Mercury Poisoning”

Medical Hypothesis 56(4) 462-471 (2001)

Many similarities between autism and mercury toxicity, including:

Psychiatric Disturbances: social withdrawal; repetitive behaviors; anxiety; irritability; poor eye contact

Speech/Language Deficits: loss of speech or delayed speech; speech comprehension deficits

Sensory Abnormalities: oral, touch, light and sound sensitivities

Motor Disorders: flapping motions; poor coordination; abnormal gait

Cognitive Impairments: low intelligence; poor memory; difficulty with abstract ideas

Unusual Behaviors: self-injurious; sleep difficulties; ADHD

Physical Disturbances: gastrointestinal disorders

Biochemistry: reduced glutathione; decreased detoxification ability of liver; disrupted purine metabolism;

Immune System: increased likelihood of auto-immune response, allergies, and asthma

CNS Structure: mercury accumulates in amygdala, hippocampus, basal ganglia, and cerebral cortex, which are damaged in autism; mercury also damages Purkinje and granule cells (seen in autism); disruption of neuronal organization

Neurochemistry: decreased serotonin synthesis; elevated norepinephrine and epinephrine; demyelination

Neurophysiology: abnormal EEGs; abnormal vestibular nystagmus response

Gender bias: higher sensitivity/occurrence in males vs. females

Heavy metal Treatment

- Vitamins such B12, B6, Folic Acid play a key role in promoting detoxification.
- Lack of these vitamins impairs the body's ability to eliminate these toxins
- Antioxidants such as Gluthathione helps get rid of toxins through a detoxification pathways

Heavy Metal Treatment

- Chelation
 - Process of Removing the heavy metal
 - Traditional medicine, i.e Calcium EDTA is used to remove lead. This medicine acts like a magnet to remove the lead.
 - Herbal medicines

What about the brain?

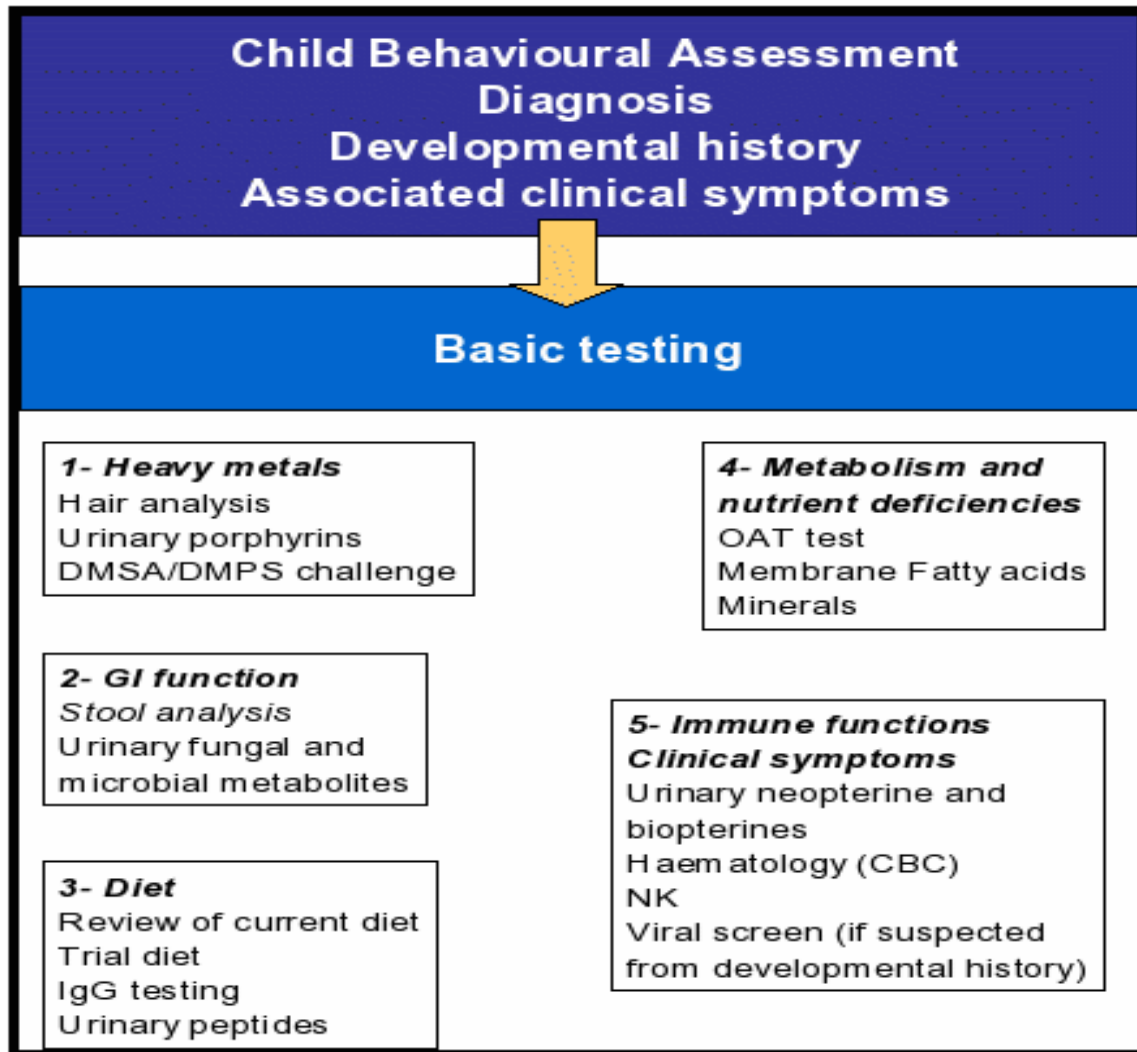
Treat the underlying issues

- Hyperbaric Oxygen Therapy
 - Traditionally used to improve blood supply to certain areas. Use for wound care to help wound healing (diabetics with foot gangrene), heart problems
 - Provides oxygen to brain and other areas to inflammation.
 - Individuals become more alert
 - 60% of parents report improvement
- Antinflammation supplements/medications
- Improvement in communication, sleep, socialization, decreased repetitive behavior, eye contact, rate of infections,
- Treating the gut, immune system issues, inflammation = improvement

What is the process for treating
autism

Get the wheel moving

- Get a formal diagnosis— Pediatric Neurologist or Developmental pediatrician
 - This will enable the individual to get services
- Need Behavioral and traditional therapy
 - Early Intervention Services:- Services Provided by county for children less than 3
 - School District provide services for individuals greater than 3
- Evaluate for Underlying medical issues
 - Gut, Brain, immune
 - Start Biomedical Therapy—See a Defeat Autism Now practitioner



DAN! Guidelines

Follow in this order:

- 1) Adjust diet to avoid casein, gluten.
- 2) Add digestive enzymes, vitamins, minerals, mega-B6 with Magnesium
- 3) Treat intestinal yeast and bacteria
- 4) Add additional nutrients (amino acids, DMG/TMG, methylcobalamin (methyl B-12))
- 5) Assess heavy metal toxicity and treat if appropriate
- 6) Boost up the immune system (Omega oils ie cod liver oil)
- 7) Reduce inflammation—Hyperbaric oxygen

“By implementing the DAN Biomedical approach these children can be greatly helped medically, behaviorally, and cognitively by proper diagnosis and treatment of their underlying medical conditions”

By Jaquelyn MacCandless, M.D.

Author of Children with Starving Brains

Great Websites

- www.autism.com
- www.tacanow.org