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**An Introduction to:  
The Integrative  
Management and  
Treatment of Autism**



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**The Road to  
Integrative Pediatrics**

**Medical Training**

- Medical School  
U. of Washington School of Medicine,  
Seattle, WA, 1986 - 1990
- Pediatric Residency  
Primary Children's Medical Center,  
Salt Lake City, UT, 1990 - 1993

**Practice Experience**

- General Pediatrics  
Salt Lake City, UT, 1993 - 1999.  
Billings, MT, 1999 - 2003
- Medical Director, Pfeiffer Treatment Center  
Warrenville, IL, 2003 - 2010
- Integrative Pediatric Medicine  
Gahanna, OH, 2010 - present

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**Integrative Pediatric Medicine**  
is healing-oriented medicine:

- Patient & Family-centered care focusing on healing the whole child.
- Makes use of all appropriate therapeutic approaches and evidence-based global medical modalities to achieve optimal health and well-being - an optimal balance of mind, body and spirit.
- Recognizes that children strive for mastery and thereby are integral participants in their own care. Development of appropriate self-care skills are important throughout their lifetime.
- Utilizes natural, less invasive interventions before more costly, invasive and potentially more risky one whenever possible.
- Encourages healing partnerships between the providers, patient, and family as well as other key decision makers; thereby, supporting the individualization of care.
- Neither rejects conventional medicine or embraces complementary alternative medicine therapies uncritically, recognizing and differentiates many valid but different "ways of knowing."



Culbert T and Olness K, *Integrative Pediatrics*, 2010. Oxford University Press, New York, p.4.

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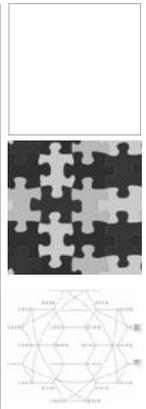
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**Coherent Wholeness**  
A Principal of Systems-Biology Describing The  
Obligatory Interconnectedness of Biology and Behavior.

"A systems-medicine model rests on the conceptualization of health and illness as part of a continuum in which all components of the human biological system interact dynamically with the environment."

"This model of practice emphasizes that chronic disease is almost always preceded by a period of declining function in one or more of the bodies organizing systems. Returning patients to health requires reversing (or substantially improving) the specific dysfunctions that have contributed to the disease state. Those dysfunctions are, for each of us, the result of lifelong interactions with our environment, our lifestyle, our belief systems, and our genetic predispositions."

More far-reaching than homeostasis, balance within a system, coherence describes an even greater order of connectedness across multiple organ systems, neuropsychology and cognition/emotion, i.e. everything is connected to everything.



Jones, DS. *Needed: A Coherent Architecture For 21<sup>st</sup>-Century Clinical Practice And Medical Education. A8 Therapist*. 2010; 16(4), pp 76-79.

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**Understanding a Disease Process**

What does it look like?

- Diagnostic criteria
- Level of functioning
- Clinical manifestation

What is broken?

- Genetic and Epigenetic influences
- Physiology and Biochemistry
- Review of systems

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**Identifying Affected Systems**

**Systemic, Regional, or Local:**  
For example, in the brain is it:

- Global brain
- Individual hemisphere
- One or more foci

**Organ Systems:**

- Brain
- Bowel
- Immune system

**General Metabolic Pathways:**

- Oxidative Stress
- Inflammation
- Immune dysfunction
- Autoimmunity

**Individual Biochemical Pathways:**

- Trace metal chemistry
- Methylation
- Pyrrole chemistry
- Vitamin D chemistry

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**Terms**

- Allopathic Medicine – traditional western medicine
- ASD – Autism Spectrum Disorder(s)
- CAM – Complementary Alternative Medicine
- GABHS – Group A beta-hemolytic Strep
- PANS – Post-infectious Autoimmune Neuropsychiatric Syndrome
- PANDAS – Pediatric Autoimmune Neuropsychiatric Disorder Associated with Streptococcal infection
- PDD – Pervasive Developmental Disorder

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**What came first - Behavior or Autism?**

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**Autism: Diagnostic Criteria**

Autism is defined by observational impairments in all of the following with onset prior to age 3 years\*:

- 1) Social interaction,
- 2) Language, and
- 3) Symbolic or imaginative play.

\* And cannot be described by Rett's Disorder or Childhood Disintegrative Disorder.

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**An Axial Approach**

- Axis I  
Clinical Psychiatric Disorders
- Axis II  
Personality Disorders & Mental Retardation
- Axis III  
General Medical Conditions
- Axis IV  
Psychosocial & Environmental Problems
- Axis V  
Global Assessment of Functioning

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**Preponderance of Autisms**

- Social Interaction
  - poor eye contact
  - inability to regulate social interaction
  - inability to develop age appropriate relationships
- Language
  - delay or lack of spoken language
  - abnormal or absence of imitative play
- Symbolic or Imaginative Play
  - rituals
  - repetitive mannerisms (aka "stims")
  - restricted areas of interest

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**What is broken?**

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**A Biologically Impaired Brain**

**Primary Brain Dysfunction**

- Abnormalities in structure and/or maturation
- Genetic predisposition to Axis I

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**Acquired Brain Dysfunction**

- Metabolic, biochemical and nutritional imbalances
- Oxidative stress and Metallothionein dysfunction

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**Sensory Integration Dysfunction**

Disorganized processing of sensory, biochemical or neuropsychiatric signals leading to abnormal behavior, learning and development.

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**Multi-organ System Effects**

- Gastrointestinal
- Neurologic
- Immune
- Autoimmune
- Metabolic and Endocrine
- Biochemical
- Psycho-neuro-immune

**+** **An Integrative Pediatrics Description of ASD**

ASD is a medical illness with:

1. a biological impaired brain
2. multi-organ system involvement and thereby multiple medical problems
3. genetic and acquired factors

Resulting in abnormal behavior, learning and development that is:

treatable.



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**What can be done?**

**+** **An Integrative Look at Autism**

Affected Systems	Pieces of the Autism Puzzle
<ul style="list-style-type: none"> <li>■ Physical</li> <li>■ Behavioral</li> <li>■ Developmental</li> <li>■ Neuropsychiatric</li> </ul>	<ul style="list-style-type: none"> <li>■ Physical                             <ul style="list-style-type: none"> <li>■ Gastrointestinal</li> <li>■ Immunologic</li> <li>■ Neurologic</li> <li>■ Biochemical</li> </ul> </li> <li>■ Consequences of <u>Physical Illness</u> affect:                             <ul style="list-style-type: none"> <li>■ Behavior</li> <li>■ Development</li> <li>■ Neuropsychiatric issues</li> </ul> </li> </ul>

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**Biochemical Individuality and Behavior**

The basis for Targeted Nutrient Therapy



## + Nutrients and Neurotransmission

The Brain is a Chemical Factory

Provided with all necessary precursors and co-factors the brain can manufacture all it needs. The source of these building blocks is dietary:

- Zinc is required for GABA synthesis
- Vitamin B6 is required for Serotonin (5-HT) synthesis
- Copper (Cu<sup>++</sup>) is a cofactor in the conversion of Dopamine (DA) to Norepinephrine (NE).
- The methyl:folate ratio impacts the levels of Dopamine, Norepinephrine and Serotonin.

## + Biochemical Individuality Matters

Individuality	Targeted Nutrient Therapy
<p>Due to genetic and epigenetic influences individuals may be:</p> <ul style="list-style-type: none"> <li>■ Deficient in several nutrients, as well as</li> <li>■ Overloaded in others.</li> </ul> <p>Multi-vitamins are rarely effective, as they may:</p> <ul style="list-style-type: none"> <li>■ Contribute to nutrient excess in pre-existing overload states (i.e. copper, folate) and/or</li> <li>■ Induce another nutrient imbalance.</li> </ul>	<p>Treatment focuses on correcting specific imbalances that manifest with specific and consistent clinical symptoms.</p> <ul style="list-style-type: none"> <li>■ Genetic nutrient deficiencies may require many times the RDA to achieve normalization/optimization.</li> <li>■ Genetic overloads may require nutrient/biochemical therapy to eliminate the nutrient excess.</li> </ul>

## + Violent Behavior Outcome Study

Walsh WJ *et al.* Reduced violent behavior following biochemical therapy. *Physiol Behav.* 2004 Oct 15;82(5):835-9.

**Study Details:**

- 207 behavior-disordered subjects
- Diagnosis of biochemical imbalances
- Targeted nutrient therapy to correct imbalances
- Measurement of frequency of physical assaults and property destruction before and after treatment

**Study Compliance:**

- 12% failed to initiate treatment
- 11% were non-compliant with treatment
- 77% achieved compliance throughout the study period

## + Response to Targeted Nutrient Therapy

Assaultive Behavior	Destructive Behavior
Symptom-Free: 58%	Symptom-Free: 53%
Partial improvement: 33%	Partial Improvement: 35%
No Change: 8%	No Change: 9%
Worse: 1%	Worse: 3%

## + Treatment

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## + Goals of Treatment

- Identification of broken systems
  - Systemic, regional, and/or local
  - Organ systems
  - Metabolic and/or biochemical
  - Mind, body, and spirit
- Restoration of normal function
- Protection of re-injury
- Promotion of normal physical, emotional, and mental health

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**Educate Yourself**



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**+** **Comprehensive Differential Diagnosis**

- Accurate Diagnosis
- Behavioral and educational evaluations
- PT, OT, Speech, SI assessments
- Family Assessment
- Integrative Pediatric Medicine Assessment

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**+** **Integrative Medical Assessment**

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**+** **Review of Systems**

<p><u>Gastrointestinal:</u></p> <ul style="list-style-type: none"> <li>■ Retained stool</li> <li>■ Dysmotility</li> <li>■ Malabsorption/maldigestion</li> <li>■ Colitis/inflammation</li> <li>■ Gastroesophageal reflux</li> <li>■ Celiac disease</li> <li>■ Intestinal dysbiosis</li> </ul>	<p><u>Allergic/Immunologic:</u></p> <ul style="list-style-type: none"> <li>■ Seasonal or perennial inhalant allergies</li> <li>■ Food allergy or adverse reactions</li> <li>■ Immune dysfunction                             <ul style="list-style-type: none"> <li>■ Autoimmunity</li> <li>■ Postinfectious autoimmunity</li> <li>■ other</li> </ul> </li> </ul>
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**+** **Review of Systems**

<p><u>Biochemical:</u></p> <ul style="list-style-type: none"> <li>■ Zinc deficiency</li> <li>■ Copper excess</li> <li>■ Pyrrole Disorder</li> <li>■ Histamine Chemistry</li> <li>■ Vitamin D deficiency</li> <li>■ Iodine deficiency</li> </ul>	<p><u>Neurological:</u></p> <ul style="list-style-type: none"> <li>■ Seizure disorder</li> <li>■ Metabolic/mitochondrial disease</li> <li>■ Sensory Integration Dysfunction</li> <li>■ Central Auditory Processing D/O</li> <li>■ Visual Processing Disorder</li> <li>■ Motor Planning Problems</li> <li>■ Retained Primitive Reflexes</li> </ul>
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**+** **Review of Systems**

<p><u>Biochemistry:</u></p> <ul style="list-style-type: none"> <li>■ Pyrrole disorder</li> <li>■ Zinc deficiency</li> <li>■ Copper excess</li> <li>■ Low or High Histamine Chemistry</li> <li>■ Vitamin D Deficiency</li> <li>■ Iodine Deficiency</li> <li>■ Metallothionein Dysfunction</li> </ul>	<p><u>Other:</u></p> <ul style="list-style-type: none"> <li>■ Hypothyroidism</li> <li>■ Adrenal fatigue</li> <li>■ Sleep disordered breathing</li> <li>■ Toxicity                             <ul style="list-style-type: none"> <li>■ Lead, arsenic, other</li> <li>■ Pesticides</li> <li>■ Other environmental toxins</li> </ul> </li> </ul>
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**Essential Medical Treatment**

- Dietary Intervention and nutrition
- Restoration of normal bowel function
  - Effective, daily stooling
  - Digestive support
  - Proper colon ecology
- Correct oxidative stress and associated problems
- Assess and correct biochemical imbalances
- Assess and correct immune dysfunction
- Step-wise assessment of other possible co-morbid conditions

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**Safety First**

- Will use of the (CAM) therapy otherwise divert the child from imminently necessary (conventional) treatment?
- Are the (CAM) therapies selected known to be unsafe and/or ineffective?
- Have the proper parties consented to the use of the (CAM) therapy?
- Is the risk-benefit ratio of the proposed (CAM) therapy acceptable to a reasonable, similarly situated clinician, and does the therapy have at least minority acceptance or support in the medical literature?

Cohen, Michael H and Kemper, Kathi J. **Complementary Therapies in Pediatrics: A Legal Perspective.** *Pediatrics*, Mar 2005; 115: 774 - 780.

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**Restore effective GI Function**

- Daily effective stooling is normal *<period>*.
- A KUB X-Ray is essential to help distinguish between a blocked bowel or a globally loaded colon.
  - Diarrhea may represent overflow
  - Daily stooling is ineffective if the colon remains loaded
- Think Irritable Bowel Syndrome
  - Food allergies
  - Maldigestion
  - Dysbiosis – abnormal balance of beneficial flora & presence of abnormal flora, parasites, yeast

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**Gluten-free & Casein-free Dietary Trial**

A trial of the GFCF diet is intended to help reduce the allergic and inflammatory influences of diet on bowel function and subsequently behavior.

- Strive for overall better nutrition: organic, whole foods, reduced sugar and eliminate additives.
- A trial of gluten and casein elimination is safe.
- More than 75% of families report positive improvements.
- Plan for the dietary change attempting first to alter family recipes to be GFCF.
- Once planned start introducing some new foods gradually to help with the transition; otherwise, your child may stop eating.

Go to [taconow.org](http://taconow.org) or [specialeats.com](http://specialeats.com) for more info.

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**Complete the Differential Diagnosis with Professional Help**

- Biochemistry
- Digestive and Gastrointestinal
- Nutritional
- Neurologic
- Allergic/Autoimmune
- Other

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**Minimize Pro-oxidant Behaviors**

- Minimize environmental toxic exposures – EWG.org
  - Cleaning products
  - Building materials (i.e. low VOC paint)
  - Plastics and other materials
- Reduce emotional, physical and emotional stresses.
  - Electronics are very potent neuroactivators
  - Find quiet time
  - Walk in nature
- Eat locally grown organic food; avoid nitrates, preservatives, and artificial additives; and know the heavy metal content of the fish you eat.

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**Maximize Learning**

- Early Childhood Intervention**
  - Speech Therapy
  - Occupational Therapy
  - Sensory Integration Therapies
- Behavioral Therapy**
  - PLAY project or Floortime
  - Relationship Development Intervention
  - Son Rise/ Options Institute
  - Applied Behavioral Analysis
- Auditory Integration**
  - Samonas Auditory Intervention
  - Tomatis/ Berard Auditory Integration Therapy
  - Listening Program
- Visual Integration**
  - Developmental Optometry
- Motor/Sensory Integration**
  - Sensory Learning Center
  - Interactive metronome

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**Advice for Parents & Professionals**

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**Focus on the Basics**

- Let your child's history and symptoms guide your choices of what to do and when best to try it.
- Realize your child's path will most likely be unique.
- Seek out parents who have had success to share ideas.
- Expect new insights along the way.
- Concentrate on evidenced-based therapies.
- Development is a journey and steady improvement is real progress.

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**Help Your Caregivers**

- Keep an up-to-date treatment diary
- Bring to the visit an up-to-date summary sheet, including:
  - Current status and problems
  - Past history of relevant illnesses and treatments
  - Medications, supplements, special diets, allergies and adverse reactions
  - Current therapies
  - Responses to treatments, therapies, etc.
- Focus on a few key issues each visit

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**How to Give Supplements**

- Recognize that this is a skill that can be learned. Social stories can be very helpful to set the context of what is expected of the child.
- **DO NOT** attempt to hide medication or supplements in food; otherwise, the child will become wary of all food. It is acceptable to use food as a carrier; however, it must be labeled as such, i.e. "juice medicine."
- How to approach giving supplements:
  - Set up a reward-based routine of giving supplements
  - Start with juice or food without any supplement added increasing the dose of juice or food gradually over time to gain compliance
  - Gradually increase the amount of added supplement over time, even if takes weeks, to overcome the taste
  - The proper attitude is "I am going to love you through this because you need this to help you"

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**Experience From Practice**

- **Prioritize treatment**  
Treating the fundamentals - biochemistry, bowel, and immune system often result in a positive effects across many systems.
- **More is not always better**  
Targeted nutrient therapy is about restoring balance.
- **Know the quality of your products**  
Not all manufacturers can reliably assure their products are not contaminated by biologics or toxics.
- **Look into familial lifestyle changes to help the whole family**
  - whole foods nutrition
  - reduce toxin exposure – EWG.org

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**There is Hope!**

Educate yourself about autism

Assemble your team

Develop a plan that fits your child's and your family's needs and abilities.

Take one step at a time

Don't do too much too fast, it is exhausting for the child, the siblings and the parents

Trust your instinct

Focus on the whole family

- Health begins at the dinner table
- Respite for the parents and siblings
- Attention to siblings



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**Health Begins at the Dinner Table**

**Nutritious Food**

- Organic
- Consciously prepared

**Family Time**

- Relationship building
- Consciously enjoyed (i.e. slow down)

**Life Skills Building**

- Emotionally grounding
- Family building with conversation and sharing



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**+** You are the ultimate decision maker.

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Join us for:  
**Walk With A Doc**

Take a **STEP** toward better **HEALTH**

Join Dr. Allen Lewis for a free walk designed for children with autism. Limited to 100 participants. Seats are first come first served. Walk with your family and friends. Make your own team. Make your own team. Make your own team.

Event on and Walk with a Doc

Time: Every Second Saturday of the month at 9:00 a.m.  
 Location: Shannon Woods Valley Park  
 Wherever attend: ANYTIME

For more information contact:  
 Integrative Pediatrics of Ohio  
 614-245-4750

**JUST WALK**  
 a WALK with a DOC event

"Thank you, Doctor, my left leg and my right!"  
 - M. S. Geringer



Frederick 408

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