



*Treat, Research, Educate, Elevate*

Better Health through the Integration of Conventional and Complementary Medicine

---

## Proper Digestion + Nutrition + Neuro-Endocrine Modulation + Immunity + Detoxification= Improved Behavior + Learning

### Medical Treatment of Autism Spectrum Disorders – ASD

**Including ADD/ADHD, Tics, Tourette's, Asperger's, and other Behavior, Learning and Developmental Disorders**

- ASSESSING & CORRECTING THE COMPETENCE OF ELIMINATION SYSTEMS
- NUTRITIONAL INTERVENTIONS INCLUDING: METHYL B12, FATTY ACID & AMINO ACID MANIPULATION (BASED ON METABOLIC ANALYSIS)
- ALLERGY CONTROL
- HEAVY METAL DETOXIFICATION (NON-INVASIVE CHELATION TECHNIQUES)
- AUDITORY ENHANCEMENT TRAINING

### A Word about Our Experience

Dr. Kotsanis was one of the founding members of **Defeat Autism Now!** (DAN!) in 1995. The **Defeat Autism Now!** (DAN!) Protocol evolved out of a study that we did in 1992. The first **Defeat Autism Now!** (DAN!) meeting was held in Grapevine, Texas in 1995. Our practice has been treating autistic children since 1992. Dr. Kotsanis is a board Certified Otolaryngologist and Allergist and as such these communication disorders fall within his domain of Ear, Nose & Throat.

The foundation of our treatment is correcting digestive function, correcting nutrition/diet, heavy metal detoxification through chelation and boosting the immune system through allergy therapy and proper nutrition. We also offer Auditory Enhancement Training (AET) and highly recommend Applied Behavior Analysis therapy (ABA), visual correction via special lenses and speech therapy - but we do not offer those here. We will recommend providers upon your first visit that will meet the needs of your child. Dr. Kotsanis became interested in autism because his son had a high functioning ASD with Aspergers. He is now 23 years old and typical.

### Treatment Based on Your Own Metabolic Profile

There is wide variation among the spectrum disorder patients. For this reason it is very important to have objective testing that measures the various metabolic variables we have found important in treatment. No two patients are alike. A program is designed based on the results of testing. The first three weeks of the program are designed to ease you into the changes that will eventually get you to

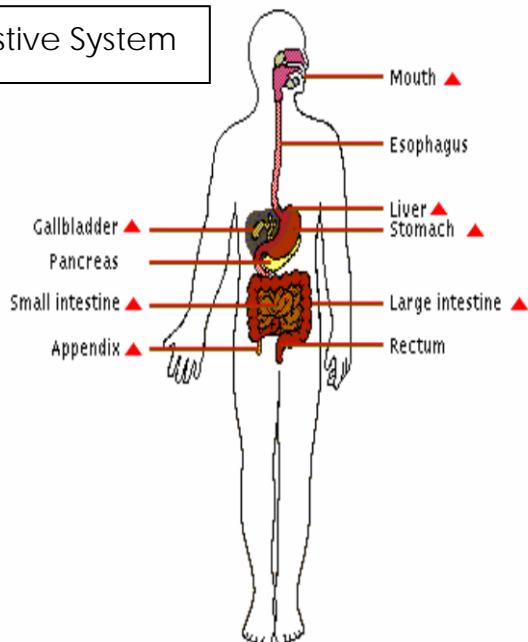
your goal. Below is a brief description of the various metabolic functions we test and some of the treatments.

## THE DIGESTIVE SYSTEM

### The Significance of Elimination

The body's immune competence and general ability to function properly is **directly** tied to its ability to eliminate waste and toxins. Great attention must be given to correcting digestive function as a necessary step in treating autism, Asperger's, ADD, ADHD, tics, Tourettes and other related behavior and communication disorders.

The Digestive System



Microsoft Illustration

### Impaired Elimination

Autistic spectrum individuals have an impaired ability to eliminate wastes. This buildup eventually causes a cascade of other problems. Allergies are a symptom of excessive buildup (toxicity) and can also be made worse by "leaky gut" which itself can be a symptom of excessive antibiotic use. Of course the digestive system is a main elimination system, and has in the past been investigated for its role in autism. While our center has been doing research in this area for over 18 years, we continue to innovate new scientific techniques and incorporate the findings of others.

Some of the factors causing impaired elimination can include:

- Allergies
- Chemical & Other Environmental Toxicity
- Dysbacteriosis
- Fungal Overgrowth
- Heavy Metal Toxicity
- Leaky Gut & Inflammation of Gut Mucosa
- Metabolic Abnormalities
- Overuse of Antibiotics
- Parasites
- Poor Diet and Nutrition Habits
- Prolonged Pervasive Inflammation
- Viruses

**Autism, ADD and ADHD are not a single diagnosis – but rather a spectrum of problems.**

Learning spectrum disorders span a vast array of behaviors and symptoms. Although it is now known that autism spectrum disorders (ASD) are accompanied by digestive, immune, hormonal, neurological and other co-morbidities, there is no single biological marker that definitively distinguishes any of these conditions as a distinct diagnosis. These diagnostic categories have traditionally been defined by behaviors, and as such, diagnosed through a process that identifies these behaviors and their degree. ASD conditions have increased in epidemic proportions in the past twenty years. With increasing

pollution and the degradation of dietary habits internationally, we have seen an increase in the incidence of all developmental disorders. If one includes learning disabilities of all kinds in the estimate, we believe the incidence may be as high as one in three children in some countries. Some integrative German physicians predict that most children born after 2013 will be on the spectrum.

There are often overlapping definitions for similar developmental conditions (e.g. Asperger's Syndrome, PDD, and autism). Very often, even practitioners are uncertain which classification to use. And there have also sprung up over the past twenty years many sub-classifications for autistic-like behaviors, because children did not fit neatly into the autism category. In the realm of clinical practice, we do not consider labels critical unless they add a dimension of usefulness to the actual act of helping the patient. [It doesn't matter what label you use, if you do not treat the underlying metabolic problems, behaviors will very likely not improve to an optimal level.](#)

The good news is that autism is better understood now than it was many years ago when it was thought to be the result of a cold mother-child relationship. It is now known that there are many components to this problem, digestive, genetic, metabolic, environmental, biochemical and sensory, and that in some cases, with early and aggressive intervention, there can be a reversal of the condition.

## **Treatment must be approached from many angles.**

Our treatments address **multiple factors** that are known to have impact on behavior and learning. One of our earliest studies (1992) yielded the information that a healthy digestive tract and immune system and proper nutritional interventions coupled with sensory integration (visual, auditory, gross and fine motor) can cause a great improvement in reducing echolalia (repetitive parroting of what others say), increasing vocabulary, eye contact, and socially appropriate behaviors.

### **Some Factors Associated to Autism and Developmental Disorders**

Among the factors which have been connected to autism (not necessarily cause and effect) are:

- Antibiotic Overuse
- Chemical Toxins
- Contaminated Immunizations-(Vaccination of immuno-incompetent individuals)
- Digestive System Dysfunction
- Endocrine System Dysfunction
- Food Allergies and Sensitivities
- Genetics
- Heavy metal toxicity
- Immune System Dysfunction
- Improper or Inadequate Brain Circulation (Hypoperfusion of Frontal Lobe)
- Inadequate Brain Development & Brain Injury
- Metabolic Dysfunction affecting Lipids, Amino Acids and Carbohydrates
- Nutritional Deficiencies Secondary to Poor Nutrition & Malabsorption

- Parasites, Pathogenic Bacteria, Pathogenic Fungus and Viruses
- Sensory Anomalies (usually hypersensitivity of hearing, smell, taste, and sensation accompanied by visual distortions)
- Structural and Autonomic Dysfunction

## Medical Testing and Treatment for Autism and Developmental Conditions

Since our earliest studies, we have added much to our body of knowledge. In order to properly assess each patient, we require a number of tests. We have listed below some of the steps we currently use in the assessment and treatment of autism and developmental disorders. Of course the customized treatment plan can only be designed after a complete history and physical, meeting with the child's parents and metabolic testing.

### Comprehensive Digestive Stool Analysis (CDSA)

Disordered digestion is present in most cases of autism and developmental disorders. In our 1992 study, 92% of subjects had disordered digestive functioning. When the digestive malfunction in these subjects was treated, behavior improved. Changes that have been reported are:

- Better sleep patterns
- Better bowel habits
- More eye contact
- Better relationships
- Increased vocabulary
- Better attention
- Decreased fears
- Better problem solving
- More socially appropriate behaviors

Treatments of the digestive tract must be highly specific to the individual for optimal results. Toward that end one of the most critical tests we do evaluates every facet of digestion including enzymes, acidity, transit time, balance of normal flora, evaluation of abnormal organisms, parasitology, etc. All total this test yields over 24 different measures of digestive efficiency. The treatment derived from these values helps the child regain normal digestive functioning, by healing the digestive tract, re-balancing gut ecology, cleansing any harmful fungus, bacteria or parasites, and then adding adequate nutrients. Once the digestive function has begun to be corrected, proper nutrition is introduced, and the process of healing begins. Regaining a normal digestive tract is the foundation of our treatment plan. Only then can nutrients be properly assimilated.

### The Importance of Digestion

Since 1992, when we began working with the digestive tracts of autistic individuals, it became obvious that there was a very close link between digestion and behavior. Dr. Kotsanis was among the first doctor to make this connection, and the protocol that he used in 1992 became the foundation of the DAN protocol which resulted from a meeting in Grapevine, Texas in 1995. The link between behavior and digestion is not restricted to the condition of autism. Digestion and nutrition also affect other behavioral

and health conditions (e.g. ADD, ADHD, hyperactivity, depression, allergies, chronic fatigue, cancer and schizophrenia). The study yielded the information, that behavior improved when digestive malfunctioning was addressed and proper nutrition was administered. Since those findings, new findings linking digestion to behavior have confirmed our work.

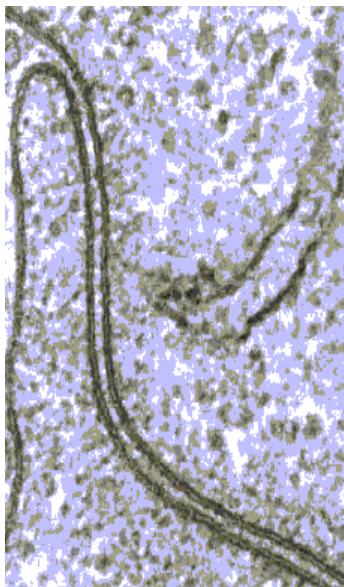
## What Tuned Us in to Digestive Function Testing?

In the late 1980's Dr. Kotsanis became very ill. He had colitis-like symptoms and he was losing weight, low on energy and unable to tolerate his normal diet. In addition to the fact that he was a board certified head and neck surgeon, he was also trained as an allergist. He was found to have numerous food and environmental allergies and sensitivities, which conventional methods could not address. Dr. Kotsanis was, however, not a conventional allergist. He subscribed to the otolaryngic and environmental allergy academies. His training included awareness of environmental toxins as well as nutritional treatments. As it turned out, this saved his life. The foundation of many of the treatments we used to help environmentally sensitive and food-sensitive patients, centered on addressing their digestive malfunctioning.

## Parasitology

Parasites love your digestive tract. Parasitology deserves extra attention in the case of autistic and developmentally challenged individuals. While many people can appear to function normally while having parasites, there is an incremental improvement in behavior when parasites are cleansed in the developmentally compromised child. Parasites excrete their wastes into the children, who already have a compromised ability to eliminate their own waste. In some cases, parasite cleansing alone has produced stark results in improved behavior and health. When testing determines the existence of parasites, a sensitivity test helps identify what medication will successfully eradicate the pest.

## NUTRITION



### Plasma Membranes of Two Cells

The plasma membrane (PM) of a cell is a semi permeable structure that separates the cell from its external environment. Constructed from a double layer of phospholipids, the PM allows the movement of water and selected ions across its surface through interaction with specific proteins. It is vital that the correct fats are in the diet

### Focused Nutritional Therapy

At the risk of stating the obvious, nutrition is critical, not just in the case of autistic individuals, but for everyone. Many researchers using a shotgun approach have tried numerous nutritional interventions that were successful some of the time. The problem with this general approach is that it is impossible to predict who will benefit. Our approach is more focused and highly specific to each child's metabolic profile. We make nutritional recommendations that are derived directly from comprehensive testing and history.

## Fatty Acid Assay

Since the brain and nervous system are composed of more than 60% fat, it is essential for the diet to contain the proper kinds and amounts of lipids. This will vary among individuals. Our center does a very highly specific fatty acid test that evaluates different lipid and lipid metabolite values and ratios. The patient is directed to eat the proper fats based on the test results. Proper fats are necessary to keep the right permeability for cell membranes to allow food in and waste out.

## **Amino Acid Testing**

The amino acid testing we do includes amino acid and metabolite values. As with the fatty acid test, we make adjustments in the diet to accommodate for imbalances. Here again, proper proteins in the diet are necessary in order to build healthy cells.

# **DETOXIFICATION**

## **Heavy Metal Toxicity**

In the medical literature heavy metal toxicity (especially lead, aluminum and mercury) has been linked to seizures, which are very prevalent in the autistic and developmentally compromised population. Even in instances where the child does not have seizures, the elimination of toxic metals has improved behavior. Metals are abundantly present in our world and can come from literally thousands of places (e.g. soda cans, deodorant, toothpaste, candy, cookware, air, water, paint, plumbing, etc.). Fortunately, there are a number of ways to accomplish the removal of these toxins. Dr. Kotsanis has over 18 years of experience using Chelation in both adults and children. There are a number of different chelating agents and methods. The method selected depends on which metals are being removed, issues regarding convenience, and the age and constitution of the patient.

## **Chemical Toxicity & Sensitivities**

In our 1992 study, we verified the existence of chemicals, food additives, and food sensitivities in this population. Again, as with metal toxicity, there are numerous methods for chemical detoxification. Where the patient's toxic chemical load is excessive, a series of massage and saunas may be prescribed. The patient's excretory organs must be in good working order prior to beginning such a program. The best way to eliminate chemicals is through the skin by infra-red sauna.

# **IMMUNE SYSTEM ADJUSTMENTS**

## **LDA (Low Dose Antigen Therapy)**

LDA is a form of allergy therapy that has shown a high level of effectiveness in behavioral disorders. We have been using this treatment in our clinic since 1995. Treatment requires the patient to be present in the doctor's office every two to three months for an injection. The treatments last for three years. After that point some people need boosters, while others can discontinue therapy. LDA works by manipulating cytokine production to block allergies.

## Viruses

Viruses have been found to be a factor in this population. We use medications and homeopathic remedies to deal with this aspect of treatment. Homeopathic treatments prescribed by our office can be administered at home.

## SENSORY INTEGRATION

### Visual

Vision is an often-overlooked aspect in developmental disorders, since some of the children may not be able to effectively communicate any problems in this area. **Yet more than 80% of all sensory input is visual.** Therapeutic sensory integration lenses, prescribed by Dr. Collier, a functional optometrist, in addition to providing proper refraction (20/20 vision), also compensate for other anomalies. The therapeutic prescription produced in the lenses serves to disperse the light stimuli so that the image correctly reaches the retina. This helps coordinate the visual input of both the peripheral and central image formations to the brain. Once the light has reached the correct anatomical part of the retina, the retina will fire signals to the brain in the proper sequence. This produces a more accurate image. The special lenses thus change the timing at which an image reaches the brain. **The examination does not require patient cooperation.** It requires a visit to Dr. Collier's clinic for examination by the optometrist.

### Auditory

Auditory training is extremely important in the treatment regimen, but it must be done after the proper nutritional adjustments have been made. It allows the patient to be more open to all aspects of his/her surroundings. Auditory Enhancement Training (AET) is a process for correcting sensory input anomalies like those found in individuals with: (The pathognomonic clinical sign is hyperacusis.)

- Autism
- Pervasive Developmental Disorders
- Attention Deficit Disorder
- Dyslexia
- Learning Disabilities
- Hyperacusis (hyper-sensitivity to sound)

Studies conducted across the U.S., Australia and England have revealed statistically significant changes in children with autism that underwent AET as compared with matched children who did not receive AET. The changes noted were:

- Improved attention to auditory stimuli
- Improved memory for routine information
- Improved ability to understand what is said to him/her
- Improved ability to reason
- Improved articulation (speech)
- Improved social skill, affection toward family and friends

- Reduced echolalia
- Reduced impulsivity, restlessness, distractibility
- Reduced irritability

The AET (Auditory Enhancement Training) program offered through our center consists of:

- The Berard approach, utilizing the BGC (brand) Audio Tone Enhancer/Trainer
- Twenty sessions of one-half hour, twice a day, for ten consecutive days
- These treatments are done in the clinic

## **Gross and Fine Motor**

All aspects of the sensory system are important. Our clinic gives special exercises to parents to do with their children. Some children have a hypersensitivity to touch, while others love to be wrapped tightly and hugged. These home exercises help make adjustments to the proprioceptive centers.

## **HORMONES**

### **Thyroid**

Many patients have an under-active thyroid. At this point, when there is a deficiency, the hormone is added to the treatment plan. In some cases, other adjustments in diet may help re-balance the thyroid function thus lessening dependence on thyroid medication. Hypothyroidism often responds to supplementation with iodine, fish oil, zinc, vitamin C and vitamin D<sub>3</sub>. If this does not correct it, then thyroid hormone replacement and close follow-up are indicated.

## **ELECTROCHEMICAL & pH-DRIVEN THERAPIES**

### **Infrared Laser Treatments**

This treatment is used to bring down pain and inflammation and lymphatic dysfunction, which is a major characteristic of this population.

### **Homeopathy**

Homeopathy is used with many patients. It can be very helpful when dealing with fragile patients, since it is always a gentle and non-invasive treatment, which is also easy to deliver (usually sublingual

drops or pellets). Most commonly homeopathy is helpful in dealing with the viral load and with heavy metal detoxification.

## Chemical Buffers

Buffers are also tools in our arsenal. They are oral and act to change the pH inside the tissues of the body.

## OTHER TREATMENTS

### Stem Cell Therapy

Dr. Kotsanis has been doing research on the use of stem cells to treat many different disorders. We believe that stem cell therapy will be more widely available in the very near future and will have a great positive impact in the ASD population.

### HBOT

While we do not currently offer **Hyperbaric Oxygen Therapy** in our clinic, it is highly recommended. It is a medical treatment that uses high pressure oxygen as a drug. The patient is seated in an enclosure and pressurized oxygen is put into the cabin. By then adjusting the dose of the oxygen, the timing and the number of treatments, the oxygen treats the inflammation by forcing oxygen into the tissues of the body.

## A Note to Our Friends

We believe that ALL the known treatments for developmental issues have merit. We recommend to parents that they learn as much about their options as possible. We especially encourage parents to seek behavioral interventions as part of the overall therapy, and we also believe that hyperbaric oxygen treatment, speech and vision therapy have a great benefit. We have treated patients from all over the world, and we welcome inquiries from everyone including doctors, universities and governments. Our center is located five minutes from Dallas-Ft. Worth International Airport and is conveniently located in the middle of the Dallas-Ft. Worth Metroplex. Dr. Kotsanis has lectured internationally before medical professionals and parent groups. We continue to explore innovative treatments that will bring these children closer to normal every day. If you have ideas to contribute, please feel free to call, write or visit.

**Please visit our web site at [www.KotsanisInstitute.com](http://www.KotsanisInstitute.com)**

