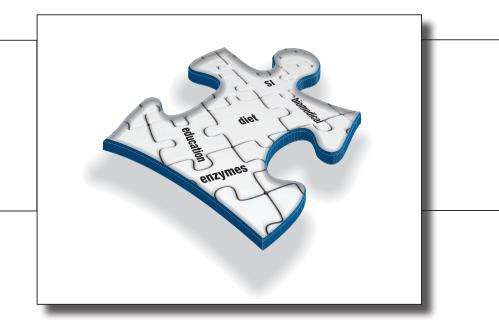
# Autism: What the Experts Know



**Autism Resource Booklet** 



## Autism: What the Experts Know

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Dear Parents, Family Members and Professionals,

We at Enzymedica are so excited to bring to you this resource booklet. With 1 out of 150 children being diagnosed with autism, we knew that there was a great need at this time for this. This is not meant to cure, treat or diagnose any individual. It is our sole intention to educate and show options for those facing autism. We always recommend consulting with a physician before starting any new treatment. We collaborated with leading experts in the field of autism to bring you a team approach. Our sincere wish is that this resource booklet provides you with hope, inspiration and practical tools that you find useful. We at Enzymedica will continue to support our children and strive to give them the best chance for success. We wish you and your family much health and happiness.

Highest regards,

Kristin Selby Gonzalez Director of Autism Education for Enzymedica Autism Diet Specialist Mother of Jaxson, diagnosed with autism





## Progress for One Provides Hope for All

By Kristin Selby Gonzalez Director of Autism Education for Enzymedica Autism Diet Specialist Mother of Jaxson, diagnosed with autism

Your dimples and smile filled the room. Your eyes seem to glow. From afar, you looked like the happiest little 2  $\frac{1}{2}$  year old in the world. After having three miscarriages and being told you were never going to be born, I was so ecstatic when you were born weighing 11 pounds 1 ounce and were 24  $\frac{1}{2}$  inches long. You beat all odds. Now, I am sitting in this doctor's office watching you being evaluated.

"Jaxson, please put this puzzle together." the doctor says. I watch you study the puzzle, and the doctor starts a stopwatch and begins timing you. Your daddy looks nervous. I just want answers. Why aren't you talking anymore? Why do you run around the table 100 times? Why don't you hear me when I call your name? Where's my little boy?

You put the puzzle together. Your daddy looks relieved. The doctor asks, "What is this, Jaxson?" as she shows you a picture of a dog. You ignore her. My stomach sinks. The doctor says, "Look at my eyes." You ignore her completely. Tears fill my eyes. The smile on your face stays put. You are so innocent and pure. The questions continue, and you appear deaf.

The silence in the room becomes overwhelming for me, and tears run down my face. The doctor tells us, "Your son has autism. We have a pamphlet that might guide you on some services." This is one of many evaluations

- Later we would be told: you will never be capable of talking
- Later we would be told: you will never be able to look at us
- Later we would be told: you will never know the difference between us and the chair we sit on
- Later we would be told: you will never have friends
- Later we would be told: you will be in a group home by the time you are 8
  vears old
- Later we would be told: "Once a duck, always a duck."

to come.

## Where we are 4 years later....

"Good morning, Jaxson," I say.

<sup>&</sup>quot;Ten more minutes," you say as you pull the covers over your head.

I pull the covers back, kiss your head and grant your wish for ten more minutes.

You enter the kitchen laughing and telling me, "I want my algae," (your health drink) and, as I begin to make it, you say, "Mommy, can I help?" You radiate the house with your smile, and your voice echoes in my ears. I tell you, "I am almost done, and then you need your bath." You reply, "Okay." I blow you a fishy face kiss, and you blow me one back. You say, "I love you." I reply, "I love you too." My heart fills with hope and pride. My little boy is coming back to me little by little every day. I am so grateful to have you in my life.

## What we are doing with Jaxson:

The Son-Rise Program®
Diet
Enzyme therapy
Biomedical treatments
Cod-liver oil
The Listening Program®
Infrared sauna
Sensory integration techniques
Speech therapy
Epsom salt baths
Vitamin supplementation
Filtered water
Air purifiers
Toxic-free household products
Hyperbaric oxygen therapy



Kristin, pictured here with Jaxson. "We use a multi-pronged approach with Jaxson. These are just options to look into."

## Some of my favorite websites:

www.autismtreatment.org www.enzymedica.com www.enzvmestuff.com www.drdemio.com www.asbboards.com www.afcfdiet.com www.pecanbread.com www.bodyecologydiet.com www.thelisteninaproaram.com www.kirkmanlabs.com www.hightechhealth.com www.seventhgeneration.com www.culliaan.com www.oreck.com www.generationrescue.org www.specialeats.com

www.pathwaysmed.com www.nourishinghope.com www.nordicnaturals.com www.aiprohealth.com www.californiababv.com www.hvperbaricsupport.com www.oxvhealth.com www.hope4jaxson.org www.heidischeer.com www.ecautism.com www.handle.org www.autismone.ora www.holistichealth.com www.aart.ora www.autismnationwide.org www.talkaboutcuringautism.org



## Action Principles from the Autism Treatment Center of America's Son-Rise Program®

By Raun K. Kaufman, CEO of the Autism Treatment Center of America™



In the early days of your child's life, there may have been a hundred different hopes, dreams, and plans you had for your child. But then your child was diagnosed with an autism spectrum disorder.

You may have felt that many doors were closed to your child with that diagnosis. If you are like most parents, you may have been told to discard many of those hopes and dreams and be "realistic." You might have been told all of the things your child will never accomplish — as if it's been decided in advance.

The most important place for you to begin is to know that you don't have to accept the limits that may have been placed upon your child. Your child has the capacity for learning, experiencing real joy and happiness, and developing warm, loving and satisfying relationships with the people in their lives. Children on the autism spectrum are capable of great change and even, in some cases, complete recovery.

Who am I to tell you this? My name is Raun K. Kaufman, and, as a young boy, I was diagnosed as severely autistic, with no language and a tested I.Q. of less than 30. Completely mute and withdrawn from human contact, I would spend my days endlessly engaged in repetitive "stimming" behaviors such as spinning plates, rocking back and forth, and flapping my hands in front of my face.

Like many parents today, my parents were told that I would never speak or communicate in any meaningful way and that my autism was a "lifelong condition." The professionals recommended eventual institutionalization.

In an effort to reach me, my parents, authors/teachers Barry Neil Kaufman and Samahria Lyte Kaufman, developed an innovative child-centered program that they called The Son-Rise Program. After they worked with me for over three years, I recovered completely from my autism without any trace of my former condition. (After my recovery, my father wrote a book recounting our story entitled Son-Rise: The Miracle Continues — later the subject of an NBC television movie.) I went on to graduate from the lvy League's Brown University with a degree in Biomedical Ethics. Now, as the CEO of the Autism Treatment Center of America (in Sheffield, MA), part of the non-profit organization that my parents founded and at which they still teach, I am so grateful to have the opportunity, with our dedicated staff of almost 80, to enable parents to help their children in the same way that my parents helped me.

Moreover, I am no fluke. For over a quarter of a century, parents from across the globe have been attending our weeklong training programs, putting in their own time, energy, and love, and achieving results with their children that often far outstrip prognoses.

The foundation of the program rests upon this idea: the children show us the way in, and then we show them the way out. This means that, rather than forcing children to conform to a world that they don't understand, we begin by joining them in their own world first. In this way, we establish a mutual connection and relationship. As the #1 challenge for this group of children and the deficit most often cited by parents as to where they would like to see their child progress, creating interpersonal relationships and social interaction must be our primary focus.

One specific technique derived from this principle is called joining. In fact, this marks the crucial starting point for The Son-Rise Program and is one of the first principles we teach parents in the Start-Up program (our introductory course). Instead of stopping a child's repetitive "stimming" behaviors, we join in with these behaviors. Our children are performing their behaviors for reasons that are important to them (and, as an increasing body of research shows, these behaviors often serve a physiological purpose, as well). When we show interest in what they are doing, we establish a powerful bond around this common interest. This is so important, because we find repeatedly that children begin to display an interest in us when we have an abiding interest in them. What's more, this interest is spontaneous, not forced. These children interact because they want to.

Joining establishes a real connection between a child and his or her parent or facilitator. We see time and time again with the thousands of families with whom we work that when children on the autism spectrum are joined, they become less interested in their activity and begin to look at us more, pay more attention to us, and even initiate interaction with us.

When deciding to join, we look for behaviors that are both repetitive (occurring over and over again or with sameness) and exclusive (non-interactive, being performed as a way to tune others out). Then we simply engage in this behavior with our child, displaying a genuine interest but not trying to change the behavior. At this point, we wait for our child to initiate connection by looking at us, stopping their activity, speaking to us, taking our hand, etc.

If we want to build a rapport and connection — the platform for all education and growth — with our children, then we must begin by entering their world, following their interests, connecting on their terms.

The next key principle is facilitating skill acquisition by capitalizing on your child's own motivation. In another reversal of traditional methods, we focus on locating children's primary areas of interests before deciding what and how to teach them. This way, we use the skills and interests our child already has instead of trying to teach "against the grain" by using a medium that doesn't work for our child.

In the case of children with autism spectrum disorders, traditional learning modalities will rarely be motivating. Therefore, we must customize the presentation of curriculum to match the child's highest areas of motivation.

If we match our goals to each child's area of motivation, the result is a highly effective symbiotic marriage between skill acquisition (social interaction, toilet-training, language development, etc.) and a particular child's



natural areas of interest (Disney characters, airplanes, physical play, etc). Thus, learning is exponentially increased - with a unique and startling benefit: we have our child's willing cooperation. A child who has learned something — not memorized it, but learned it — generalizes that skill and can then use it spontaneously (rather than in a robotic, programmed manner with a prompt and a reward).

When choosing what to teach or work on with your child, it is important to choose social goals before academic goals. Academic skills, while important, will do nothing to help our children overcome the central challenge they face — namely connecting with others socially. Our children don't need more math, they need more friends. This happens only through the development of social skills such as eye contact, communication, interactive attention span, and flexibility.

For this same reason we want to prioritize the interaction over the goal. No matter how important we think a particular goal is, interaction and connection will always get us and our children further in the long run. For a given child to accomplish a particular goal on a Thursday instead of Friday is much less significant than for that child to continue to build a bridge of interaction between his/her world and ours. So, if you start to see that sticking with your goal is creating tension, conflict, or resistance, set the goal aside for the moment and keep the interaction alive.

On a separate note, it is essential to address your whole child — on the educational front and the biomedical front. The interventions outlined by the other contributors to this booklet can be incredibly useful in addressing your child's biological and physiological challenges. What makes a powerful treatment program is creating synergy — making the interventions work more powerfully together than individually. This is done by tackling two challenges: getting your child to willingly take the interventions and getting your child's body in a state where it can maximally utilize the interventions.

We teach many techniques for surmounting the first challenge, such as giving your child control (so that they don't feel threatened and can get on board for adopting the food, enzymes, headphones, etc.), relationship-building (as discussed above, which is vital for building enough trust so that your child is willing to go with you even when they aren't yet totally on board), fun creativity (the development of fun, silly games to get your child excited about participating in the intervention), attitude (also discussed above, which has a huge effect on whether your child is comfortable with the intervention), persistence without pushing, starting at a distance, modeling, exploration, and integration (of the intervention into the child's world).

As for the second challenge, we have a concept called The Recovery Mode. Many children on the autism spectrum have elevated levels of cortisol and/or adrenaline (the stress hormones). In essence, for children with this issue, they are in constant fight or flight mode — or survival mode. Aside from the fact that learning and social interaction are nearly impossible for our children when they are in this state, it is also key to understand that, as a rule, the body does not engage in sustained physiological repair (S.P.R.) in this state. However, research is beginning to show that when children are worked with according to Son-Rise Program-type principles, it can help them to shift from fight of flight survival mode into Recovery Mode. When this happens, stress hormones can drop into normal ranges, and the body can then engage in S.P.R., which means that your child's body can

then make maximal use of the biomedical interventions being given.

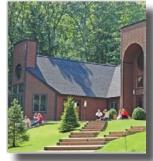
Finally, let's talk about the single most overlooked area when it comes to the treatment of children on the autism spectrum: attitude. A non-judgmental and optimistic attitude is the critical element. We see time and again that children with autism tend to move away from people they perceive as uncomfortable or judging and toward people they see as comfortable, easy, fun, safe, and non-judgmental. Thus, we can use our attitude to become an interaction magnet. In fact, the reason why we spend a great deal of time in our Start-Up and other programs helping parents with their emotional and attitudinal challenges is because we have found, over the years, that creating and sustaining an attitude of hope an optimism is crucial to implementing and maintaining an effective program.

So no matter what you are told, please know that there is hope for your child. Of course, someone who doesn't know your child will see what your child does not do and speak as if they know what your child cannot do.

But you are the parent. You have a love, a lifelong commitment, and a day-in, day-out experience with your child that no one else can match. You may sometimes feel dismissed or brushed aside, but nothing can change the fact that you aren't in the way, you are the way.

No one has the right to ask you to apologize for believing in your child, for seeing the potential within your child, and for wanting more for your child. While we cannot know or promise in advance what a given child will accomplish, having hope means that we will never decide in advance what your child will not do.

The only reason I can write this article today is because my parents believed in me when no one else on earth did. So you keep believing in your child without apology. We'll be here waiting for you, ready to help you and your child reach the stars.



Autism Treatment Center of America™

## For more information:

Call 1-800-714-2779 — or (413)-229-2100. You can register for any of our programs this way, particularly the Start-Up, or you can make an appointment to speak with one of our Family Counselors (free of charge). We work with many families with older children or adults, as well as children deemed "high functioning," and we see progress at all ages and ability levels, so don't let anyone tell you that it's too late.

Also, go to www.autismtreatment.org where you can find lots of information, techniques, and free web presentations that you can use immediately.



## The Listening Program®: Auditory Stimulation for Improved Social Engagement

By Alex Doman, CEO and Founder of Advanced Brain Technologies (ABT)

Our ears are always open, whether busy with the activities that fill our lives in the light of day, or during a restful sleep under the shadow of night, the auditory sense is feeding our brain information about the environment.

Naturally we recognize the significant part the auditory system plays in attention, listening, and learning. Its role in balance, posture and spatial awareness is also implicit.

Many children and adults experience difficulties processing auditory information. These can be far ranging, but some challenges include:

- auditory attention
- hypersensitivity to sounds
- filtering out background sounds
- temporal processing
- auditory memory
- understanding the meaning of what is being communicated

As the understanding of the neurobiological mechanisms of auditory function advances so does our ability to develop and study the effects of auditory stimulation on brain organization, and as an intervention strategy.

Researchers have made a link between the middle ear and social engagement that provides insight into why some children with social behavior and communication difficulties may demonstrate atypical behaviors in certain situations and environments.

## Middle Ear and Social Engagement

One clearly explicit model of a link between the middle ear and social engagement is provided by The Polyvagal Theory formed by Dr. Stephen Porges at the University of Illinois at Chicago. He links the evolution of the neural regulation of the heart to affective experience, emotional expression, facial gestures, vocal communication, and social behavior that is responsive to the behavior of others. The theory proposes that the neural control of the heart is neuroanatomically linked to the neural control of the muscles of the face and head through mechanisms of the vagus, or tenth cranial nerve (Porges 2004).

The vagus nerve, a primary component of the autonomic nervous system, exits the brainstem and has two

branches that regulate the striated muscles of the head and face (e.g. facial muscles, eyelids, middle ear muscles, larynx, pharynx, muscles of mastication) and in several visceral organs, (e.g. heart and gut) (Porges 2001). Porges suggests that there are specific neural circuits that can compromise social engagement for those on the autism spectrum. Social engagement is dependent, in part on the control of the muscles of the face and neck which enable us to express a wide range of emotions in ways that others around us can detect, enjoy, and respond to. A key to comfortable social engagement is the vagal nerve innervation of two tiny muscles in the middle ear.

The two muscles of the middle ear are the tensor tympani, and the stapedius. Together, they regulate the stiffness of the tympanic membrane (eardrum), and the ossicular chain (consists of three bones; malleus, incus, stapes) as a pathway of sound conduction to the inner ear. These muscles must function properly to protect the inner ear from loud sounds, and to attenuate low frequencies so that the higher frequencies contained within the human voice can be discriminated. This is especially important with speech in the presence of background noise. Poor speech discrimination in background noise is a common feature in auditory processing problems. This is often coupled with auditory hypersensitivities.

If the middle ear muscles are not functioning properly, the nervous system can be bombarded with unwanted sound. We have no "ear lids", and thus there is no protection from this assault. Children, who experience auditory sensitivities, may not be able to modulate the middle ear muscles and may experience the autonomic nervous system state of fight or flight. They may appear hyper vigilant. When they can't escape (flight) from seemingly threatening sensory experiences they may act out as a defensive action (fight). In some situations a child may withdraw and completely shut down. Behaviors such as covering the ears, aggression, rocking, humming, and self stimulation may be observed. The child may exhibit a lack of facial expression, make poor eye contact, show little interest in others, and have a flat, monotone voice devoid of rhythm.

If you have ever attempted to carry on a conversation in a noisy, crowded restaurant? Then you will understand that socialization can be very difficult in a challenging sound environment. The noise creates a certain level of nervous tension. It becomes a challenge to; modulate the middle ear muscles to listen and speak, make eye contact, read and display positive facial expressions. The social engagement system is intimately related to stress reactivity (Porges 2001). Sensitivity to the social engagement behavior of others also decreases. This stressful experience may result in agitation, withdrawal, and resulting social disconnection.

Lower level needs including physiological and safety needs are prioritized before higher level needs such as love and belonging, esteem and self actualization can be met. If one is merely trying to survive they cannot express or experience, love, belonging, or intimacy, much less be confident, learn, problem solve and show empathy and acceptance of others. Some of the very qualities that make us distinctively human are impaired.

### Intervention

To improve spontaneous social behavior, Dr. Porges has proposed that an intervention must stimulate the neural circuits that regulate the muscles of the face and head. Theoretically, once the regulation of these structures is activated, social engagement and communication will spontaneously occur as natural emergent properties of the biological system (Porges 2004).

The Listening Program (TLP) method uses music-based auditory stimulation to modulate the regulation of the middle ear muscles. The theory is that the middle ear muscles need to be regulated during listening, and the



nerves that regulate the muscles are linked to the nerves that regulate the other muscles of the face and head involved in social engagement (Porges 2004). TLP is engineered to do this, and included in the method are processes that stimulate and exercise the neural pathways involved in listening and simultaneously stimulate the function of other aspects of the social engagement system.

## **Technical Details of The Listening Program**

Since The Listening Program® (TLP) was introduced in 1999 one of the frequent reports from parents and providers have been a reduction in hypersensitivity to sounds and fear of sounds (phonophobia) with improved communication and social engagement. When the regulation of the middle ear muscles improve so does comfort and safety in the environment. Once a listener no longer has to devote their internal resources to comfort and safety, they become available to listen, learn, communicate, and engage in prosocial behaviors.

The Listening Program is a patent-pending, music-based auditory stimulation method that is intended to improve auditory, vestibular and other brain functions. It involves in part, listening to acoustically modified music through headphones. Listening schedules are 5 days per week, 15-30 minutes each listening session. The program length is typically 5 months but is individualized to meet the needs and goals of each listener. Listening can be done for shorter and longer time periods. In addition certain programs can be delivered through speakers when headphones may not be tolerated. The method is normally integrated within academic and therapeutic programs in home, school and clinic.

The Listening Program incorporates the most advanced psychoacoustic processes including the highest quality music available, recorded specifically for the method at 24-bit 192 kHz HD using ABT's Spatial Surround® process delivered with Dolby Headphone® technology.

The music consists of Classical pieces performed by the award-winning Arcangelos Chamber Ensemble. The compositions are principally Mozart with Haydn, Vivaldi, Corelli and Danzi, offering a rich tapestry of sound with instrumentation of strings and woodwinds.

The Listening Program includes four training categories; full spectrum, sensory integration, speech and language, and high spectrum. This progressive structure allows for refined stimulation and training at any point in the program. To accommodate individual listener preferences, are options to follow a program with or without sounds of nature. While many prefer to enjoy and focus on the exquisite music, others especially children, benefit from the novelty of combining music with beautiful sounds from nature.

The program is available on CD and iListen®. The CD version includes; ten (10) 60-minute albums, an easy-to-use guidebook, portable CD wallet, listening schedules and free access to online listener resources.

iListen is an iPod with preloaded music (uncompressed), with the ten 60-minute albums and a library of music from the Sound Health® collection (music for relaxation, thinking, etc.), as well as the guidebook, carry case, listening schedules and free access to online resources.

A recent technological development was the introduction of ABT portable bone conduction technology. It combines the experience of listening through specialized headphones adding subtle vibration to the skin and skeletal system, engaging the whole body and brain in the listening process. This multi-sensory approach accelerates and expands the benefits of The Listening Program. It can be particularly targeted to listeners with social engagement problems, making them more available to benefit from the program. This equipment is portable, and compatible with iListen and portable CD players.

## **ABC Modular Design**

The Listening Program's patent-pending ABC Modular Design $^{\text{TM}}$  provides appropriate training for social engagement by effectively exercising the auditory system; providing "accommodation/warm-up," "training/workout" and "integration/cool-down" phases.

Each 60-minute TLP album contains 4 fifteen-minute modules. Each module provides three phases of stimulation. The first phase, "A," relaxes the listener making their nervous system available to benefit from the more intensive stimulation of the "B" phase. This is the phase in which a technology called audio bursting stimulates and exercises the neural pathways involved in listening and simultaneously stimulates the function of other aspects of the social engagement system. The listener is then guided to a relaxed state during the final "C" phase.

These modules integrate progressive entrainment processes of tempo, music complexity, and various psychoacoustic processes that regulate arousal levels providing the greatest opportunity to benefit from the program. As Dr. Porges suggests, interventions to improve spontaneous social engagement should ensure that the context elicits in participants a neuroception of safety that allows the social engagement system to function (2004 Porges). Neuroception is a term coined by Porges to describe how neurocircuits distinguish whether situations or people are safe, dangerous, or life threatening.

A safe, comfortable listening setting with a context of positive association, incorporating the ABC Modular Design within The Listening Program helps to provide a neuroception of safety for the listener.

## Michael

At age five Michael was hypersensitive to sound, touch and multi-sensory input, demonstrating an inability to effectively modulate this type of sensory information. During the course of the day he would quickly reach his sensory limit, either reacting with negative behaviors, withdrawing or shutting down. At that time, he was attending a private preschool three days per week, three hours a day and was receiving limited services including occupational therapy and speech therapy. Michael was also on a waiting list for a school specializing in autism spectrum disorders. His diagnosis was ADHD, PDD-NOS and a Sensory Processing Disorder.

Michael was involved in a pilot research study on The Listening Program at Primary Children's Medical Center (PCMC) in Utah. The investigator was his Occupational Therapist, Bryan Gee, OTD, MS, OTR/L. The Listening Program was initially introduced in his occupational therapy sessions and was then followed through by his parents at home.

Intake, pre and post testing included a client history, Listening Checklist, Sensory Profile, Peabody Developmental Motor Scales 2nd Edition, and video tape. According to the testing Michael responded to The Listening



Program with moderate improvement which was the criteria required by PCMC to expand the use of The Listening Program to be offered to the local community.

Michael's mother video taped him participating in two school musical programs. In the pre program video he demonstrated a rapid decline in social engagement as the school program progressed through several holiday songs. Michael's facial affect flattened, he covered his ears and eyes, rocked himself, and progressively shut down as he became increasingly overloaded by all the activity and bombardment of sound.

Observing Michael in the post program video you see a very different child. He is paying attention, smiling, dancing, has excellent motor timing and coordination, initiates and maintains eye contact, and actively sings throughout a nine song program completely engaged with the other students. To the lay observer, it is difficult to differentiate him from his peers.

In the course of his initial TLP program Michael greatly improved his ability to modulate sensory input, began to engage in imaginary play, had reduced hyperactivity, and expressed appropriate emotions with adults and his peers. According to his Speech Therapist receptive and expressive language skills improved as did his social skills. Michael now follows multi-step directions, maintains good eye contact, has increased facial expression, reduced sensitivity to sound and touch and has improved emotional regulation.

Michael improved social engagement, response, and functional participation in home and community life. Consequently, The Listening Program continues to be an integral part of Michael's everyday routine. He was discharged from therapy and is no longer on the waiting list for the specialized school as he is currently attending a regular education first grade class.

## Conclusions

People can experience difficulties in processing auditory information which may lead to far ranging challenges. Researchers have made a link between the middle ear and social engagement that provides insight into why some children may demonstrate atypical behaviors in certain situations and environments.

The Polyvagal Theory suggests that there are specific neural circuits that can compromise social engagement. Key to spontaneous social engagement is the vagal nerve innervation of two tiny muscles in the middle ear. To improve spontaneous social behavior, Porges suggests that an intervention must stimulate the neural circuits that regulate the muscles of the face and head. He reasons that once the regulation of these structures are activated, social engagement and communication will spontaneously occur as natural emergent properties of the biological system. The Listening Program method stimulates these neural circuits with acoustically modified Classical music. Empirical evidence on the outcomes of the TLP method, including case studies reveal benefits from this intervention including but not limited to improved social communication behaviors as proposed in Porges' Polyvagal Theory.

## **Getting Started with The Listening Program**

The Listening Program is available exclusively through an international network of professionals who receive training, certification and continuing education through Advanced Brain Technologies (ABT).

The providers offer information, assessment, individualized program development, and support to families using TLP.

Parents may contact Advanced Brain Technologies for a free consultation or referral to a TLP Provider in their area.

Call: US Toll Free 1.888.228.1798 International + 1.801.622.5676 www.thelisteningprogram.com

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### **About the Author:**

Alex Doman is the CEO and Founder of Advanced Brain Technologies (ABT), a neurotechnology company founded in 1998 which is based in Ogden, Utah.

Alex is the third generation of a pioneering family of neurodevelopment specialists working with pediatric and adult populations since the 1940's. Prior to founding ABT he served as Executive Director of the National Academy for Child Development.

For the last 15 years he has focused on the research and development of products and technologies that apply principles of brain plasticity with an emphasis on auditory and visual information processing. Alex leads the international multidisciplinary team who is responsible for creating all ABT products including The Listening Program® together with other music programs; SoundHealth®, Music for Babies™, Spatial Surround® HD, and iListen®. Further products include BrainBuilder®, an interactive brain fitness software program for the improvement of attention, memory and BrainSpeed.

Alex has developed curriculum for and trained thousands of health, therapeutic, education, and music professionals as Providers of The Listening Program®. He is a frequent invited lecturer at international conferences and his work is regularly covered by the press. Alex is a music producer, writer and inventor with patents pending on methods to improve auditory processing, spatial awareness, and apparatus and method for transmitting auditory bone conduction.



## The HANDLE Institute®

## How a Sensory-Motor Approach to Autism Can Help Alleviate Problematic Behaviors, and How HANDLE® Differs from Classic Sensory Integration.

By Judith Bluestone
Founder of the HANDLE® Institute
& author, The Fabric of Autism: Weaving the Threads into a Cogent Theory
Edited by Peg Simon
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For decades, neuroscience has recognized that the brain is plastic: it is in a constant state of adaptation based on the stimulation it receives via the body's interaction with the environment.

We have known for years that individuals with autism engage in stereotypical behaviors.

For example, a child may have an obsessive-compulsive need to line up blocks in a particular fashion and cannot tolerate the blocks being moved. HANDLE® (Holistic Approach to NeuroDevelopment and Learning Efficiency) does not try to extinguish certain behaviors and replace them with others. Rather, the HANDLE practitioner endeavors to understand the behavior itself, from the perspective that behavior is communication.

In the example given, we might find several reasons for this behavior. Frequently the child is extremely sensitive to the movement or displacement of energy in his surroundings. He may be placing the objects in a specific position to shield himself, much like building a fortress. A hole in a strategic place in the fortress makes the child vulnerable to attack from an enemy that others do not see.

Since each of our senses receives different sources of energy for processing (e.g. sound, light, taste, odor, proximity/pressure) and the brain must integrate them into a perceptual whole (reality), the HANDLE practitioner realizes that hypersensitivity in any realm can be the source of the need to protect oneself in an area of vulnerability.

By using a behavioral model that insists that the child remove his barriers and allow other people and sensations to enter his world, we are actually attacking the child's senses and sensibilities, and under siege, he may capitulate.

But if we want the person to develop strength in navigating his world, we need to view these behaviors as communication of a sensory need. Since the core deficit in Autism Spectrum Disorders is communication, and since behaviors are in themselves very clear communication (once you have the eyes to see it) of underlying neurodevelopmental challenges and attentional priorities that are neurophysiologically driven, we need to credit the child with communicating his needs.

We need to rename "melt-downs" and see them as "flare-ups," since we put flares up to ask someone to pay

attention to what is bothering us and help us resolve our difficulty (not to superimpose on us their judgment that something as silly as an errant ray of light reflected off a shiny surface couldn't possibly be bothering us, or a particular sound couldn't possibly require us to shut down our ability to listen to conversation or directions).

This is where HANDLE — a Holistic Approach to NeuroDevelopment and Learning Efficiency — excels. In its holistic nature, and in its ability to chart the interactions of the systems mentioned above for each individual, it offers a potential for integration and strengthening of the many interconnections, while respecting at all times the validity of what the autistic person is experiencing. Through the use of specific HANDLE activities, the neural pathways are strengthened without being stressed, and thus growth can happen and tolerances can gently be increased.

We can truly help children become functional adaptive beings in their total environment by first discovering and then treating underlying sensory-motor irregularities and doing so from a systems approach. But to do so, we must first "listen" to what each child is telling us; and then continuing to listen as we work with them. That concept, known as Gentle Enhancement®, is at the core of HANDLE.

To understand this principle, it's important to realize that stressed systems don't get stronger. Stress causes a person to go into "fight or flight" response, which means that the Autonomic Nervous System is on alert, diverting most energy and available nutrients toward immediate survival and away from the task at hand. When a client comes for a HANDLE program, their systems already have weak areas that don't function well, hypersensitiveness in one or more systems, and the client is already working as hard as he or she can. HANDLE practitioners are trained to watch for subtle signs of stress (state changes) and activities are immediately stopped when a change is noted. Parents and eventually clients themselves learn to notice these state changes as well.

HANDLE activities, unlike "classic" Sensory Integration, do not use fast movements, spinning or many repetitions. An activity may be completed after 30 seconds, if that is the individual's current tolerance. This individualized activity program, given following a full assessment by a certified HANDLE Practitioner, is done at home, and takes about 20 minutes a day. As each person begins to be able to handle a bit more input and integrate it, naturally the state of extreme fear will begin to lessen, and the corresponding autistic behaviors begin to recede.

HANDLE doesn't target skills; its holistic approach promotes efficient neurological functioning. And when that functioning is efficient, skills are learned without undue effort or drill. Thus, HANDLE offers full respect to each individual.

For more information check out: www.handle.org



## **Holistic Treatments for Autism**

By John H. Hicks, MD

## The History

When I started my practice as a pediatrician twenty-five years ago, autism was a rare occurrence. So rare, in fact, that it was never even discussed in my pediatric residency. Ten years later, I began to see the first signs of the coming epidemic. The explosion of ADD in the mid 1980's was the prelude to what was soon to come. Childhood asthma, allergies, food sensitivities, ADHD, and autism cases skyrocketed, along with a rise in adolescent chronic illnesses. Pediatricians in the mainstream medical community pointed to better diagnostic tools and increased awareness as the reasons for the dramatic rise of new cases. Those of us on the front lines of autism knew better.

I attended my first DAN conference in September of 2000. There I found some answers. I learned basic information about the dangers of heavy metals and vaccines, digestive disorders, food intolerances, immune dysfunction, and detoxification. One year later, I abandoned my pediatric practice. I began exclusively treating children with autism, a passion that developed from my relationship with my greatest teacher, my stepson, Joey.

When I met Joey, he was a tremendously ill little boy. Joey was six months old when he had seven vaccines in one day. In the space of that one day, he disappeared into his own world-the world of autism. Although many of the methods I learned from DAN were beneficial to a number of my patients at the time, Joey was unable to tolerate one vitamin and had a food intolerance list of about 50 foods. It was baffling and frustrating. When Joey was about eight years old, I met a wonderful woman by the name of Beth Van De Boom. Beth nearly died from a combination of undiagnosed celiac disease, uncooperative physicians, and massive dosages of dangerous medications. When she finally recovered, she began a life-long quest to understand natural medicine. Through Beth, I was introduced to homeopathy, and as I saw its healing power, I began to read and research everything I could find on energy medicine.

Joey is 15 years old now and is amazingly healthy. He no longer has food intolerances and is an exceptionally joyous young man. My evolution as a doctor, and what I learned during those seven years, was greater than everything I had ever learned in medical school. I abandoned the belief that medication cures anything. I learned that each and every child has his or her own innate healing path. I learned that the body is only as strong as its weakest link, and most importantly, I learned that the answer to the problem lies in the cause, not the symptoms. A symptom can have multiple causes from different systems in the body and a practitioner must be willing to search for the cause.

## **Digestion**

Nutrition is the basis of all functioning of the body. Without proper nutrition, cells will not have energy, enzymes cannot be formed, hormones cannot work, and no tissue can be built. The two building blocks of proper nutrition are food choice and proper digestion of those foods. Many individuals on the autism spectrum have digestive enzymes that function poorly or not at all. Other digestive issues are improper flora, unbalanced pH, absorption, and gut wall inflammation. A comprehensive digestive stool analysis will provide information on all these issues and also provide a look at anaerobic bacteria and yeast. This information will show you the basic direction to put the digestive system back on track.

There is no question that diet is the most important foundation for healing the autism body. Gluten/Caseinfree, SCD, and other special diets need to form the basis for all other treatments. However, many times parents get so caught up in following the "allowed" foods list that basic nutrition is ignored. A perfectly followed GFCF diet can keep peptides low, and a perfectly followed SCD can help control yeast, but there are other variables to consider. The nutrition found in a wide variety of proteins and vegetables are not attainable through any other method than diet. Adding cultured vegetables to the "Autism Diet" is desirable because of their many benefits in healing the gut. However, if parents are dealing with a "picky eater," there are certain supplements that can also provide great benefits to digestion.

Probiotics are one of the mainstays to healing leaky gut and reducing reflux. Enzymes for digestion and yeast are also key factors to a healthy intestinal track. If leaky gut is present, then the use of an epithelial regenerating glandular, blood cleaning chlorophyll, and natural okra pepsin all work to accelerate the healing process. It should be mentioned that in any "healing process," there might be the occurrence of "die off" — caused by the liver and kidney's inability to clear the toxins that are produced from killing the abnormal bacteria and yeast. To prevent this from occurring, I will use artichoke extract for thinning the bile and aiding elimination, and the homeopathic, Drainage for increasing blood flow to the liver and kidneys.

For abnormal bacteria, the use of natural antibacterials or Vibrational remedies (which are energetically derived, and work like homeopathics, but with much less alcohol), can be used to clear specific bacteria or used for general bacterial clearing. The abnormal bacterial distribution can be between aerobic and anaerobic bacteria. Some of these bacteria produce toxins that lead to malabsorption and leaky gut. When undigested foods leak through the intestinal wall into the body, the immune system attacks the food particles in the same way it would bacterial invaders. Because of this reaction, food hypersensitivities develop. These are also known as IgG antibodies. Elimination of certain foods becomes necessary in the short term. However, in order to heal the leaky gut and prevent further intolerances, the immune, detox, and digestive systems all need to be addressed.

## Detoxification

Detoxification is the process that our body uses to convert fat-soluble materials into water-soluble materials for excretion. Our body's ability to detoxify is largely influenced by genetics. The detoxification conversion process is carried out in two phases: Phase I is composed of the cytochrome P450 enzyme system. It carries out the first reactions and the resultant compounds may be more toxic than the originals. A healthy detoxification process must have a balance between Phases I and II; otherwise, the intermediate free radicals can cause significant damage. Phase II is divided into separate reactions that are controlled by enzymes. These enzymes can be examined at the DNA level to see if they are removing toxins efficiently. If either of these two phases is out of balance, then we will accumulate rather than eliminate the exposed toxins in our environment. Our hormones



and neurotransmitters; dopamine, epinephrine and nor epinephrine, are also regulated by this system. Many people with hormone imbalances have difficulty with their detoxification system, as imbalances are not simply limited to glandular irregularity.

The most vital way to support detoxification is to assist the body's elimination of toxins. Artichoke extract and the homeopathic product Drainage are both useful, but one of the big detoxification "superstars" is Glutathione. Glutathione is our body's natural eliminator of many solvents, fungicides, herbicides, lipid peroxidases, and heavy metals. Many individuals with chronic illnesses and most of the autism population have reduced glutathione production. Because of this, there is accumulation rather than excretion of toxins. With this accumulation, there is an increase in lipid soluble compounds, which affects cellular energy and brain function. The effects of heavy metals on the neurological and immune systems further complicate the situation. Adjuvants, substances that are injected along with an antigen to enhance the immune response to vaccines, depend on glutathione for removal and the disparity of this system allows the lipid soluble compounds to create a large number of physical disorders.

Glutathione is exceptionally fragile, and needs a carrier to facilitate gastrointestinal absorption. It is most beneficial through IV, aerosol, transdermal absorption, and through liposomal form. Simply taking glutathione tablets is ineffective. The gut enzymes break down the glutathione, resulting in a non-effective treatment.

There are a multitude of homeopathics and Vibrational remedies that support all phases and enzymes of the detoxification system. Many foods, including beets, berries, fibrous foods, and most vegetables, (with the exception of potatoes and corn), naturally support the body's excretion process. One of the easiest ways to help flush out the body's detox system on a daily basis is with clean filtered water. To figure out how much water one should consume in a day, cut your body weight in half. That number is the amount of ounces your body requires to stay hydrated.

## **Immune System**

The immune system is also greatly influenced by DNA. Most people on the autism spectrum have immune dysfunction in which they display a TH-2 shift. With this shift, they are over producing antibodies and have a decreased ability to fight and clear viruses. This shift may be triggered through a genetic predisposition coupled with the interaction of environmental exposures. A history of frequent early infections followed by an absence of illness represents the shift in the immune system. Without attention to the problem, the pattern of producing large quantities of antibodies may include the production of auto-antibodies (when the body attacks itself). Many natural and affordable treatments can help rebalance and shift the immune system back to normal without resorting to medication. Transfer Factor, Moducare, and Vibrational remedies such as Immune Balance help neutralize the immune system imbalance. Before taking any supplements, it is essential to know the direction of the shift and whether or not auto-antibodies are present. Taking supplements blindly can cause further shifting of the immune system in the wrong direction.

## **Methylation and Neurotransmitters**

Neurotransmitters are substances that act to tell our senses, our brains, our muscles, and our organs what to do and what is happening elsewhere in the body. They are generally associated with brain function: mood, focus, concentration, anxiety, obsessions, and bipolar disorder, but every cell in the body has receptors for these neurotransmitter compounds, so their impact is felt throughout all of the body's systems. One of the most common reactions for neurotransmitter inter-conversions is processed through the catelchol-o-methyl transferase enzyme. This enzyme converts dopamine to epinephrine to nor epinephrine. When this enzyme is affected, there is an increased risk of depression, bi-polar disorder, autism spectrum disorder, and alcoholism.

The most common neurotransmitters are dopamine, epinephrine, nor epinephrine, and serotonin. Dopamine, epinephrine, and nor epinephrine are called the catecholamines and are inter-converted by a reaction called methylation. Methylation is a process that adds methyl groups to compounds. Methylation plays a role in epigenome function, neurotransmitter function, and homocysteine conversion. Epigenomic function turns genes on and off. The enzymes that control methylation and epigenome function are affected by the environment and by your DNA proficiency. This control begins inutero and continues throughout one's whole life. Your parental DNA controls the DNA of both neurotransmitters and homocysteine conversion. This basic DNA "blueprint" can be modified, however, by supplementing the appropriate co-factors to encourage maximum enzyme production and function. Supplementation that can help support the methylation process is a combination of methylcobalamin, folinic acid, and DMG (dimethylglycine). These supplements can help support production and interconversions. Other modifications can be carried out with homeopathics (Vibrational remedies), which can modify receptor activity, transporter activity, uptake, and enzyme activity.

Serotonin levels can be imbalanced due to inadequate amounts of 5-Hydroxy Tryptophan. Imbalances with serotonin can cause issues with mood, focus, anxiety, OCD, concentration, cooperation, and sleep. The usual cause is inadequate amounts of the enzyme that converts tryptophan to 5-Hydroxy Tryptophan. Supplementation must be carried out with appropriate support of both the serotonin and dopamine neurotransmitters. SSRI drugs, such as Prozac, have significant brain altering complications and do not correct the core of the issue. Raising serotonin levels naturally produces numerous benefits without negative or dangerous side effects.

## The Benefits of Holistic Medicine

Autism produces a range of symptoms and affects every system in the body. The use of holistic medicine offers a natural and synergistic approach to restoring balance and optimal function.

I have presented a brief overview of some of the major treatment challenges and options. However, due to the complexity and inter-dependence of all the body's systems, customized protocols should be considered when treating each individual. When you treat the cause, you continually take steps forward without the fear of side effects and adverse reactions to medications. Despite the fact that most vitamins, supplements, and other natural healing remedies do not require a prescription, I strongly urge anyone who is focused on treating autism to work with a trained professional who will create a customized path back to optimal health and wellness.

## www.pathwaysmed.com



## Understanding the Biomedical Basis of Autism Spectrum Disorders

By Dr. Phillip C. DeMio, MD
Biomedical Autism Practitioner
Chief Medical Officer, US Autism & Asperger Association®
Founder & Executive Director, American Medical Autism Board®

The Autism Spectrum Disorders, including Autism, PDD, Asperger's Syndrome, ADHD, OCD (over compulsive disorder), RAD (reactive attachment disorder) are treatable. Increasingly evidence shows that autism spectrum disorders are a metabolic, GI, immune, and nutritional disorder which is often the result of toxins such as mercury, vaccines, and those that may be in the environment. This leads to profound adverse effects on the brain, development, and behavior. That is, the Autism Spectrum Disorders are medical, not mental, and they respond to medical treatment. This is the biomedical concept. Dr. DeMio and his staff are here to help you and your child. Dr. DeMio focuses on the biomedical treatment of the Autism Spectrum Disorders. The goals of treatment are relief of symptoms, restoration of health, and the maximizing your child or loved one's cognitive function and independence. Dr. DeMio aims to improve your child's function by improving cognition and gastrointestinal health with the aim that he or she can become functional and independent. The family that succeeds at this for their child will have a total program that includes comprehensive biomedical treatment along with a balanced program including therapy. With this in mind, Dr. DeMio and his staff are here to join you in your journey toward recovery for your child. The following is a list of some of services that we offer for adults and children on the Autism Spectrum.

The following is a list of some of services that we offer for adults and children on the autism spectrum:

**Brain:** Dr. DeMio uses dietary intervention, other specialized nutrition, supplements, encephalitis/viral treatments, detoxification of heavy metals (chelation), and neuro-immune treatments. The goal is to allow the brain to recover allowing the patient to gain function and independence.

**Gastrointestinal:** Dietary intervention is a major treatment of Autism Spectrum Disorders. The patient's problems are assessed including those of gastrointestinal immunity, poor enzyme function, malabsorbation, maldigestion, and persistent viral infections. Dr. DeMio takes a multi-pronged approach including antiviral treatments with goals to improve nutrition, reduce pain, form normal bowel function, and take steps toward toilet training. This helps the GI system and the body to tolerate a broader number of foods without toxic and allergic reactions and helps to eliminate dysbiosis such as yeast and clostridia.

Immune system: This involves three areas: immune deficiency (frequent infections that are often prolonged compared to normal), autoimmunity (the body attacking itself, eg. the brain, the thyroid, and the GI system), and finally allergy. The gluten-free/casein-free diet often improves immune function, so this is instituted up front, along with natural supplements that stimulate the immune system, as opposed to poisoning it with vaccines and other toxins. Such treatments as oral or IV immunoglobulins, transfer factors, and probiotics are

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used for this purpose. Minerals and antioxidants help to redirect the immune system away from autoimmunity and help protect other tissues from damage that occurs with multiple infections, autoimmunity, and allergy. Dr. DeMio attempts to limit the need for medications and unnatural treatments (antibiotics). Among the few drugs that Dr. DeMio may use are antifungal medications to fight yeast, thus helping the immune system to can get a further boost. This is in tandem with herbal treatments that can lessen the dose and frequency of drugs.

**Metabolic/hormonal:** The goal here is to reverse metabolic blockages, and restore smooth continuous function for your child or loved one's metabolic and hormonal machinery. Everything from thyroid to testosterone to estrogen can be in disarray leading to complete inability to utilize food, water, and air and turn it into proper body function. This also involves issues of methylation (B-12, folate, TMG/DMG), sulfation, and vitamin metabolism among others. Therefore, based on the history and on testing, Dr. DeMio uses a combination of diet, supplements, and detoxification to assist your child or loved one's body on the road to improvement of metabolism and hormonal balance.

**Detoxification/chelation:** Heavy metals and other toxins have wide sweeping effects on the cell nucleus, metabolism, the immune system, GI function and the brain. Therefore detoxification such as chelation and other techniques will help to improve global areas of your child's cognition and behavior, as well as motor function including muscle tone, and fine movements. Other areas such as sensory integration also benefit. All chelators are available through Dr. DeMio, such as DMSA, DMPS, TTFD (allithiamine), CalciumEdta, glutathione, along with lipoic acid (a brain chelator, also known as thioctic acid). There are still others that can be used in particular cases. Most of these are now available in creams so we can avoid yeast, taste aversion, and other the GI side effects of older treatments. Supplements and a clean diet are also used to bolster your child or loved one's own internal detoxification systems.

**Supplements:** First and foremost, supplements should be clean (GFCF, free of heavy metals, and other toxic additives). Dr. DeMio has selected a group of very pure, high quality supplements that he recommends for his patients.

Compounding Pharmacist: Every child on the spectrum needs a compounding pharmacist who is well versed with persons with special needs and who will work closely with a biomedical doctor. Dr. DeMio recommends the Lee-Silsby Pharmacy for his patients. Chelators must be compounded (made from scratch) for the best results. Other treatments include a recently developed topical B-12 so that injections can be avoided. We also use adenosyl-B-12, which can aid recovery in low motor tone in the child or individual who seems to be drained of muscular energy all day.

**Special diets and nutrition:** This is not simply the removal of all foods that are currently difficult for your child to tolerate. Virtually all of our children with Autism Spectrum Disorders are malnourished. The use of dietary intervention should aim at malabsorbation, gliadorphin/casomorphin/neurotoxic peptides, and extremes of diarrhea and constipation. Dr. DeMio's plan here is to help restore proper enzyme function, digestion, eubiosis (normal balance of healthy bowel bacteria), and GI immunity. Addressing all of these issues is the best approach to helping your child make the most out of the nutrition that you work so hard to put on their dinner plate and get them to eat. You need to take them a step further so they can actually utilize the nutrition. This is done by administering the necessary diets, not all at once, as opposed to simply erasing every single food that is out there. This is especially true with children who are so picky and have such difficulty with food. The diets Dr. DeMio may use for your loved one include: aluten-free/casein-free, fermented foods, low sugar, modi-



fied low carbohydrate, anti-yeast, allergy, toxin/rotation, pigment —restriction and whole organic foods. Dr. DeMio himself is on a gluten-free/casein-free, corn-free, soy-free, and peanut-free diet, so he knows directly about implementing special diets at home, when traveling, and when eating out. Additionally, we implement diets with the proper use of supplements, along with Dr. DeMio's specialized techniques of using enzymes. Additional vitamins and minerals help the body use the nutrition that it absorbs. These recommendations are made in a sensible, balanced fashion under exacting detail.

Other Treatments: Dr. DeMio's philosophy is to use biomedical treatments and a holistic approach combined with cutting edge state of the art medical care. This includes the use of vitamin and mineral supplements, essential fatty acids, gluten and casein free diet (as well as many other nutritional techniques), digestive aids such as probiotics, enzymes, colostrum, antifungal treatments to control candida and other yeast, control of clostridia and other bacteria, the use of secretin, heavy metal detoxification (eg. chelation), the use of immunoglobulins (intravenous and oral), antiviral treatments for such conditions as persistent viral encephalitis (Valtrex®/Cortef®) and persistent measles (full-dose vitamin A and other immune stimulants), and many other treatments. The take home point is DON'T WAIT! Dr. DeMio believes that we have treatments right now that work for our kids today. We can't hold back the chance of recovery while the clock is ticking, because opposing powers want to mull it over for decades. We all thank the late, Dr. Bernard Rimland, a psychologist and a parent of an autistic son, who had always been kind and encouraging to Dr. DeMio in his practice and in the continuing recovery of Dr. DeMio's son; he has been a tireless champion for the biomedical treatment of Autism Spectrum Disorders. Years ago terms like "refrigerator mother" were the norm along with the mental illness model. Dr. Rimland was the voice standing up for the biological aspects of autism, leading to the treatments we now have. Call Dr. DeMio today to discuss the many biomedical options available for your child or loved one.

Dr. DeMio cares for patients from your town and from across the country and around the world. We see patients from towns all over Ohio, and throughout the United States. Additionally many patients come from international locations, with Dr. DeMio giving care to patients from four continents. You can travel to our practice from most of the U.S. via two major airports that are a short drive from Dr. DeMio. Therefore many patients and families come to see us without staying overnight, and they can be in and out in the same day! For overnighters, we can suggest accommodations. As a parent of a child with autism, Dr. DeMio knows what it is like to travel with a child, especially one who has special needs on a special diet. Treatment can be provided via telephone and/or video consultation.

www.drdemio.com www.asbboards.com





## Pathways to Recovery

By Dr. Amy Yasko, Neurological Research Institute, LLC

### Contributors to Imbalance

We've often heard that diseases have a sole cause and a single "magic bullet" cure, but nothing so clearly disproves that theory than the growing epidemic of autism. At the Neurological Research Institute (NRI), we explore the interplay of the multiple factors contributing to autism and other diseases, including:

- Infectious agents
- Environmental toxic burden including heavy metals
- Genetic factors undermining metabolic efficiency

## **Complex Conditions call for Comprehensive Solutions**

Dr. Yasko's goal is to help families (and practitioners) address autism and other neurological disorders via a comprehensive approach, featuring:

- Nutrigenomic testing to locate areas needing support
- Individualized nutraceutical recommendations
- Biochemical testing to track the healing process
- Information products for understanding safe ways to detox and rebuild capacity
- Community of carina and information sharina

## What is Nutrigenomics?

Nutrigenomics is the study of molecular relationships between nutrition and the response of genes, with the aim of extrapolating how such changes can affect human health. According to the National Center of Excellence in Nutritional Genomics at UC Davis, "The science of nutrigenomics seeks to provide a molecular understanding for how common dietary chemicals (i.e., nutrition) affect health by altering the expression and/or structure of an individual's genetic makeup. Just as pharmacogenomics has led to the concept of 'personalized medicine' and 'designer drugs', so will the new field of nutrigenomics open the way for 'personalized nutrition.' In other words, by understanding our nutritional needs, our nutritional status, and our genotype, nutrigenomics should enable individuals to manage better their health and well-being by precisely matching their diets with their unique genetic makeup."

## What is Nutrigenomic Testing?

It is important in this day and age to address all of the contributing factors that lead to disease. One clear, definitive way to evaluate the genetic contribution of multifactorial disease is to take advantage of new methodologies that allow for personalized genetic screening. Genetic testing gives us a way to evaluate and address the genetic component of multifactorial disease. Currently, tests are available to identify a number of underlying genetic susceptibilities based on allelic variations that are found in the DNA.

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This testing is done utilizing single nucleotide polymorphisms, otherwise known as SNP's (pronounced "snips"). This process systematically compares genomes of those individuals with an imbalance in a nutritional pathway to the corresponding DNA of a "normal" population.

These nutritional pathways can be viewed as complex roadways. Any mutations in the pathways can be visualized as road blocks. If we are familiar enough with the roadways and the maps we can design detours to get around the road blocks. The field of nutrigenomic testing and the supplementation of nutrients helps to assuage the fear of genetic testing.

While NRI's test can be likened to a detailed road map, other tests simply offer a starting point and destination, but without any of the specific information between the two points. Without these details you would not know if the route chosen has been closed, if the bridge is out, or if there is a detour that will add more time to your travel. Given only a starting and stopping point means that the rest of the trip is simply guesswork. NRI's nutrigenomic test and Methylation Pathway Analysis are designed to eliminate the guesswork in your journey to health and wellness. While other nutrigenomic tests look at isolated genes in a wide range of pathways, this test was especially developed to look comprehensively at a very critical pathway in the body in such a way that Dr. Yasko is able to construct your personal roadmap to health and healing.

## A Roadmap to Health

## **Knowledge Empowers**

The results of NRI's Nutrigenomic Test provide you with knowledge regarding your genetic susceptibilities. These results, in conjunction with the Methylation Pathway Analysis, serve as a personal guide to help you understand what supplements, herbs, and vitamins you can use to bypass specific weaknesses in nutritional pathways within your body.

## A Message of Hope from Dr. Yasko

Over nine years ago, I found that the same integrative health principles I've used in guiding adults with chronic inflammation, immunological and neurological disorders could benefit children with autism. With that discovery, I stepped onto a path more complex, more demanding—and ultimately more rewarding than any I've ever known. Since then my focus on children with autism draws on every ounce of my expertise in molecular biology, biotechnology, immunology, infectious diseases, and biochemistry. The fruits of that work are offered to you through the services and resources of Holistic Health International, LLC. As a parent, I know that nothing is more important than recovering your child. This process is not a sprint - it's a marathon, requiring great stamina. No matter the time or the distance, I pledge my assistance to all who commit to this journey. To all parents of children with autism: When you can't sleep at night for wondering when your child will be well, I urge you never to give up hope. Reach out to our community of families, and access these services to help recover your child.

Amy Yasko, Ph.D., CTN, NHD, AMD, HHP, FAAIM

### To Learn More

Dr. Yasko's program and services are available to families, as well as individuals, with a wide range of chronic health issues. We encourage you to undertake the program and testing with the help of your practitioner and/or physician. To learn more about our available products and services, please go to: www.holisticheal.com or for



a more comprehensive overview please visit www.holistichealth.com which contains links to Dr. Amy's content site as well as her discussion group.

## About Dr. Amy

Dr. Amy Yasko brings a unique array of insight, scientific knowledge, and clinical experience to her groundbreaking approach to autism and other forms of neurological inflammation. With extensive expertise in biochemistry, molecular biology, and biotechnology, Dr. Yasko has research and clinical experience in both allopathic and integrative medicine, and is widely recognized for her pioneering work with RNA. Dr. Yasko's integrative healthcare practice specializes in chronic inflammation, and immunological and neurological disorders. In her practice, she has achieved considerable success in halting and reversing the effects of debilitating diseases, including autism, CFS, ALS, MS, Parkinson's disease, Alzheimer's disease, SLE, Myasthenia gravis and autism. Most recently her primary focus is on her program to help reverse autism. The recipient of the 2004 CASD award for RNA Research in Autism, Dr. Yasko is the author of several books and has presented at numerous conferences on autism. She lives in Maine with her husband and three children.





## The Basic Understanding of a Gluten-Free/Casein Free Diet

By Sueson Vess, Author of *Special Eats Simple, Delicious Solutions for Gluten-Free & Dairy-Free Cooking*By Betsy Hicks, Diet Counselor

The gluten-free and casein-free diet, frequently called the GFCF diet, eliminates gluten (a protein found in certain grains) and casein (a protein found in all dairy products).

Foods can trigger a multitude of health concerns even for healthy individuals. When the body is already compromised due to autism spectrum disorders the "wrong" foods can aggravate an already stressed immune system and manifest new conditions including:

- Food intolerances
- Allergies
- pH imbalance
- Yeast overgrowth
- Bacterica
- Auto-immune disorders

Elimination of these "wrong" foods through the GFCF diet will help minimize or even eliminate these conditions.

Following the GFCF diet may also eliminate a condition know as the "opioid effect," which occurs when morphine-like peptides cross the blood/brain barrier. Symptoms may include:

- Hyperactivity
- Moodiness
- Periods of unexplainable giggling
- "Spaced-out" feeling
- Poor memory
- Sleep problems
- Poor organizational skills
- Inability to multi-task
- Constant hunger
- Lack of urine/stool control
- Craving for only gluten and casein
- Extreme "picky eater"

When properly implemented, the GFCF diet helps to heal the digestive tract.

GFCF is more than simply replacing gluten and dairy with substitute ingredients. Making the necessary dietary changes provides the opportunity to improve your entire family's diet and health by eliminating toxic foods, adding nutritious whole foods and learning to plan and prepare healthy meals.

## **Understanding Gluten and Casein**

In order to effectively eliminate gluten and dairy from your diet, it is important to know exactly what these two symptoms are and in what foods they can be found.

## Gluten

- Gluten is a protein found in:
- Wheat
- Barlev
- Rye
- Oats
- Bulgur (cracked wheat)
- Couscous
- Durum
- Einkorn
- Faro
- Graham
- Kamut
- Matzoh, matzo
- Semolina
- Spelt
- Triticale (wheat/rye crossbed)

## Gluten-Free Grains, Starches and Flours

- Amaranth
- Arrowroot
- Bean Flour (pinto, gar-fava, garbanzo, lentil, etc.)
- Buckwhent
- Corn
- Millet
- Monting
- Nut flours: almond, hazelnut, etc.
- Pen flour
- Potato flour and starch
- Quinoa
- Rice (white, brown, wild, black and sweet rice)
- Sorghum
- Soy
- Tapioca
- Teff

The above Gluten-free grains, flours and starches are allowed on a gluten-free diet. However, each person may have additional unique allergies. Intolerances or sensitivities to a particular grain. It is important to monitor your diet; keep a journal of foods that are added and any reactions to help identify potential problems.

## **Hidden Sources of Gluten**

You must become excellent food detectives and label readers. Gluten is more than bread and pasta-there are many foods that contain gluten. Gluten may be an ingredient in salad dressings, marinades, sauces, soups, broths, candy, snack foods; basically any prepared food. Recheck labels when you shop because manufacturers often change ingredients.

<sup>\*</sup>although oats do not contain gluten, conventional oats in the United States are grown, processed and packaged in wheat-contaminated environments. Recently, a number of certified gluten-free oat products have become available. To maintain a GFCF diet, use only certified gluten-free oats available online and some specialty food stores.



Wheat and other glutens may also be concealed in ingredients called seasonings and flavorings, modified food starch, malt, imitation bacon and seafood. If the label is unclear, contact the manufacturer to confirm whether the product is gluten free.

## Casein (Dairy)

Casein is a protein found in all dairy products from cow, sheep, goat and buffalo, including milk, butter, cheese and yogurt.

## Casein-Free Options

- Rice milk
- Nut milks: Almond, Hazelnut
- Hemp (a seed, not a nut)
- Coconut milk
- Vegan cheeses

Yogurt and frozen ice cream substitutes can be purchased or made using GFCF non-dairy milks.

## **Potential Sources of Casein**

The following ingredients always contain dairy:

- Casein
- Caseinate
- Ammonium caseinate
- Potassium caseinate
- Curds
- · De-lactosed whey
- Lactalbumins
- Lactoglobulins
- Lactose
- Nougat
- Rennet
- Whey

## The following ingredients do not contain dairy:

- Calcium lactate
- · Calcium stearoyl lactylate
- Cocoa butter
- Cream of tartar
- Lactic acid (however, lactic acid

starter culture may contain milk)

- Oleoresin
- Sodium lactate
- Sodium stearoyl lactylate

## Hidden Sources of Dairy

Dairy is more than milk, butter, yogurt and cheese. Like gluten, many foods contain dairy, even so-called "nondairy" substitutes. Dairy may be aningredient in salad dressings, sauces, soups, broths, candy, snack foods, processed meats, margarine, non-dairy dairy substitutes, soy and rice cheese and sherbet. Recheck labels when you shop because manufacturers often change ingredients. Dairy may be concealed in ingredients called artificial butter flavor, caramel color, seasonings and natural or artificial flavorings. As with gluten, if the label is unclear, contact the manufacturer to confirm whether the product is dairy free.

## Medicine, Supplements and Personal Care Products

Over-the-counter and prescription medications, as well as vitamins and supplements, are potential hiding places for gluten and dairy. Check with your pharmacist or the product manufacturer to confirm safety of a specific product. Immunizations and flu shots may contain eggs or contaminates. Personal care products and cosmetics may also be sources of hidden ingredients.

## Re-Think The Way You Look At Food!

Food is an unquestionable priority. For those whose health is compromised by food intolerances, food is medicine. Everything we eat has a direct effect on our body, which is why it is extremely important to make healthy cooking and eating a priority.

How to Begin Following the GFCF DIET Make gradual changes; take it one step at a time

## Remove...

- Step 1. All gluten and dairy containing snack foods.
- □ Step 2. Processed foods
- Step 3. Sweetened beverages, juices, soda, dairy especially anything with high fructose corn syrup
- Step 4. Dairy (including casein) from diet; maintain this diet for a minimum of one week before making more changes
- □ Step 5. Gluten and dairy from diet
- Step 6. Gluten and dairy from diet plus eliminate soy, corn and remove or greatly reduce sugar
- □ Step 7. Artificial colors and additives like MSG, nitrates, nitrites, other toxins
- □ Step 8. Fear

www.specialeats.com www.pathwaysmed.com

## Replace with...

- Healthy snacks like homemade trail mix, GFCF granola bars, fresh fruit and veggies, fruit leather (pure fruit). Make it fun. Cut food into shapes or small bite-sized pieces, use acceptable dips. May use crunchy chips and GFCF pretzels.
- Nutrient-rich whole foods. Your children will not starve. If they are eating only processed foods they are already undernourished. Keep foods simple and nutritious.
- Water, naturally sweetened drinks and nondairy alternatives.
   START SLOW! Blend cow's milk with non-dairy milk and gradually increase non-dairy and decrease dairy; dilute juices with water the same way.
- Keep gluten in the diet while your child adjusts to dairy-free foods. Keep foods simple. Find foods that your child enjoys eating.
- Prepare simple GFCF meals that are within your child's texture needs. May use GFCF mixes for cookies, and treats adding nutritious foods like pureed squash, shredded carrots and zucchini.
- Homemade GFCF meals and snacks with healthy whole foods.
   Use natural alternative sweeteners to replace sugar. Do not use artificial sweeteners. Save treats for special occasions rather than daily.
- Unprocessed, organic fruits, vegetables, GF grains, meats and fish. Read labels carefully.
- Gratitude and confidence continue to seek support from others as you make these changes.



## A Message from a Pecanbread.com Counselor, on the Specific Carbohydrate Diet (SCD)

By Sheila Trenholm

The Specific Carbohydrate Diet (SCD) is a diet designed to heal the body. The gut bugs or microbes found in the intestinal tract can cause damage by fermenting or eating carbohydrates that the person's body is unable to digest. If you starve the gut bugs by taking away their complex carbohydrates (sugars and starches etc...) and use foods that are readily digested and absorbed (specific vegetables and fruits, honey etc...), the body will heal. Elaine Gottschall described the connection between the gut, diet and microbes in her book "Breaking the Vicious Cycle, Intestinal Health through Diet". There are many resources available for those doing SCD. These resources include the Pecanbread Website, the internet discussion Yahoo! Group 'Pecanbread' and SCD Counselors.

The Pecanbread website is an important resource for those starting SCD. It contains information on a number of SCD topics, including: how to start the diet, doing SCD dairy free, lists of SCD legal commercial foods and supplements, information on 'Constipation and SCD' and 'SCD and Yeast' and SCD recipes etc... The address for the website is http://pecanbread.com/.

Pecanbread is also the name of the largest SCD discussion group for those implementing the Specific Carbohydrate Diet ™. Many, but not all of the members, have children with ASD (Autism Spectrum Disorders). Some people have children with bowel disease or other disorders Adults also following SCD for their own health are also welcome. Information for joining the Pecanbread discussion group can be found at http://pecanbread.com/new/local1.html.

SCD Counselors, approved by Elaine Gottschall, are listed at http://pecanbread.com/new/counselors1.html. These counselors can help people with various aspects of SCD, including, but not limited to: how to transition to SCD; a personalized approach based on symptoms and limitations (allergies, sensitivities etc.); meal preparation, and trouble shooting when problems.

For further information on SCD Counselors, please contact Sheila Trenholm at sheilat@nl.rogers.com





# The Specific Carbohydrate Diet and Autism

By Julie Matthews Autism Nutrition Specialist

Diet is an important piece of biomedical intervention for autism, and the Specific Carbohydrate Diet is a helpful dietary strategy for supporting children. Beyond the commonly noted social and behavioral inhibitions, many children with autism have alarmingly similar physiological disturbances, and most people are unaware that many children with autism can be quite ill with symptoms including: diarrhea, constipation, sleep disturbances, infections, fatigue or hyperactivity, and skin rashes. These symptoms are signs of underlying physical problems—not "coincidence"—and illustrate how autism is a whole body disorder. These physical symptoms are caused by biochemical imbalances that also affect the brain. Addressing the general health of these children is paramount to aiding their potential and begins to get at the root of the problem.

Diet and nutrition are key foundations for improving the systemic health of children with autism. What children eat directly affects how their body and brain operate for several reasons: the chemicals and substances in foods can affect the brain, and foods can feed or starve out harmful microbes in the gut that create toxins that affect the brain. Our knowledge of the "gut-brain connection" is helpful in understanding the connection between the food we eat and the function of our brain (cognitively and behaviorally). The recent work of Dr. MacFabe at the University of Western Ontario has illustrated this gut-brain connection with autism—that the condition of the gut affects the brain. Hippocrates, the father of modern medicine said, "all disease begins in the gut." We must remember that the foods and substances we eat are in constant contact with the gut, and of significant influence on the body. Furthermore, food provides important nutrients for healing and brain function.

Food impacts autism and the gut-brain connection. Foods such as wheat and dairy contain proteins (gluten and casein) that can create an opiate effect, as well as cause inflammation. This opiate effect can have a direct effect on the brain creating symptoms similar to morphine—foggy thinking, inattentiveness, constipation, and more. The inflammatory response can create digestive disturbances, pain throughout the body, and nutrient absorption issues. Other foods, when not tolerated, such as soy and corn can further exacerbate inflammation in the gut and cause food and microbial toxins to leak into the bloodstream—adding burden to an already taxed liver. Sugars can feed dysbiosis (imbalance of good bacteria and pathogenic yeast and bacteria organisms) common in autism. For some, all grains and complex sugars, fuel the growth of bad gut bugs and the residing inflammations and toxins that result. Inflammation is important to understand and control because these proinflammatory chemicals (cytokines), can have dramatic affects on mood, behavior and brain function.

In order to discuss SCD or any diet, it's important to define what we mean by diet. Diet is an intentional strategy regarding food intake. There are two main focuses of dietary intervention:

- 1. Remove the bad stuff—foods that are inflammatory, damaging to the gut, or feeding dysbiosis
- Add in foods for good nutrition—supplying needed nutrients and probiotics (good bacteria)

Diet is misperceived as only involving restriction or elimination of foods, which is only half of the healing equation. Supplying the body what it needs to engage natural healing processes by adding healthy foods is critical to the success of dietary intervention.

The most common and effective diets include: GFCF, SCD, elimination and rotation diets, Gut and Psychology Syndrome (GAPS), Body Ecology Diet, Feingold diet, low oxalate diet, and Weston A. Price.

Most "autism diets" focus on the removal of "toxic foods," foods that cannot be processed, lead to inflammation, or feed bad "gut bugs." For example, the popular Gluten-free and Casein-free (GFCF) diet eliminates the inflammatory proteins found in wheat and dairy foods. Other diets remove soy, corn, and other inflammatory foods. The Specific Carbohydrate (SCD) diet eliminates complex sugars and starches. We want to start here with choosing a diet and strategy of what to eliminate but remember to go to step 2—ADDING good nutrition.

We're going to focus on one of the most common and effective diets for children with autism: The Specific Carbohydrate Diet (SCD).

### The Specific Carbohydrate Diet (SCD)

The Specific Carbohydrate Diet aims to reduce gut inflammation and aid healing by "starving out" the bad gut bugs. SCD works, in part, by eliminating the complex starches and sugars that require carbohydrate-digesting enzymes. When there is inflammation in the gut, mucous secretion can inhibit these enzymes from coming in contact with the food. This allows for these undigested molecules to be used as food for the bad gut bugs—creating more inflammation and damage—hence, the "vicious cycle" Elaine Gottschall (Author of Breaking the Vicious Cycle) spoke about. A variation of this diet is the GAPS diet created by Natasha Campbell-McBride, M.D. It includes the essentials of SCD, plus the addition of nutritious principles such as fermented foods, homemade broths, and cod liver oil.

When following SCD, one removes all complex sugars: all sugars except honey and fruit sugar, this includes the removal of maple syrup, cane sugar, agave nectar, brown rice syrup and more. It also involves the removal of all starches; all grains, potatoes, and sweet potatoes. This diet allows meat, fish, nuts and seeds, certain beans, all non-starchy vegetables, fruit, fats and oils.

This diet is not a low carbohydrate diet, it is a specific carbohydrate diet. The goal is not to restrict all carbohydrate (such as with the Atkins diet), but to eliminate the carbohydrates that require enzymes and good gut function to process—such as disaccharides including sugars as described above and polysaccharides in starchy foods. The diet allows fruit, all non-starchy vegetables such as broccoli, kale, cauliflower, even sweeter vegetables including carrots, winter squash, and beets, and certain beans—and it's important to get some of these carbohydrates (monosaccharides) in a form that allows for immediate absorption. I also recommend that SCD be implemented as casein-free to start (although the diet is not inherently casein-free) because of the inflammatory nature of dairy and opiate response for so many children with autism.

By removing complex starches, this diet supports good health and improvements with autism. Pathogenic microbes such as yeast and bad bacteria give off toxins that affect the brain. By removing the sugars and starches that feed these bugs, the toxins that overwhelm the brain and liver are reduced. By reducing the population of pathogenic bugs, (as well as poorly digested starches/sugars, and inflammatory proteins),



digestion can improve, leading to greater absorption of nutrients that support brain chemistry and function. The removal of gluten, casein, and soy with SCD reduces the opiates that can be produced from improper digestion. Also, remember to add good nutrition and nourishing foods to supply needed nutrients.

#### Foods to avoid on SCD

- No grains or corn
- No potatoes (white or sweet)
- No soy products
- No sugars except honey
- No cornstarch, arrowroot powder, tapioca, agar-agar or carrageenan
- No pectin in jams
- No chocolate or carob
- No baking powder (baking soda OK)

#### Foods to Eat

- Vegetables (non-starchy)
- Fruit
- Fruit juice not from concentrate
- Honey
- Meat
- Eggs (if tolerated)
- Nuts/seeds and nut milks (if tolerated)
- Certain beans
- Ghee

Enzymes are very helpful with diet. Frequently, elimination diets (anything that eliminates foods such as GFCF, SCD) work by eliminating a food that can't be broken down by current digestive function—this is where enzymes are helpful. When someone cannot tolerate gluten, it is often because the partially broken down protein creates an inflammatory response or opiates. One of the functions behind SCD is removal of the starches and sugars that are not properly broken down—due, in part, to insufficient enzymes. By taking enzymes, these proteins and carbohydrates are broken down into their useable component, instead of feeding the inflammatory cycles.

Enzymes are helpful, but they are not a substitute for diet. In the case of the Specific Carbohydrate Diet, enzymes can help break down foods, proteins, carbs, and fats that can cause inflammation and inhibit digestion. Enzymes also support good health by helping to breakdown foods for better absorption of nutrients.

I have heard many positive reports from clients whose children with autism have used The Specific Carbohydrate Diet. Parents report improvements in diarrhea, constipation, gas, and other digestive complaints, as well as improvements in attention, language, and sleep. While individual results vary depending on the needs and health of the child, dietary intervention is important and SCD is a great diet to consider.

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# Body Ecology Diet<sup>™</sup> and Autism

By Donna Gates, Author The Body Ecology Diet

As a wave of autism reaches pandemic proportions (1 in 94 boys in the US) a great deal of time and effort is going into exploring the causes and potential cures. Doctors and scientists are not exactly sure why children develop autism, but the statistics are frightening: roughly 1 out of every 150 children born is diagnosed with autism.

Still, too many researchers are looking off in the wrong direction while major media outlets like CBS, ABC and NBC ignore the fact that natural prevention and treatment of autism is effective and works!

Body Ecology has long championed a natural approach to preventing and treating autism, with excellent success. We firmly believe that we have unlocked the mystery of autism and other disorders on the spectrum like Asperger's, ADD and ADHD and can successfully and consistently eliminate this epidemic with our knowledge and diet that focuses on the wisdom of our bodies and the inner ecosystem. This diet is used to heal systemic fungal, viral and bacterial infections. It has become clear over time that the Body Ecology program provides healing for many different kinds of physical problems. In fact, most of the health problems we suffer from today are fungal (or yeast) based...even cancer. This is certainly true for children who are suffering from an infection we now call autism. Spreading the word that autism is both treatable and preventable is a major goal.

Newborn immunity and vaccines, blood type A, and stem cell research provide valuable information about our children that should be more widely understood.

#### **VACCINES**

For the last several years here at Body Ecology we have been teaching that autism is not caused by the mercury in the vaccines but has multiple causes. Yes, mercury and other metals found in these children (and most children today) are toxic and damage their neurological system. But at Body Ecology, we feel confident that a "genetic disorder" is causing this problem. And, yes, autism has its origin in the womb.

During pregnancy the mother's immune system is suppressed so that it does not fight against her fetus. Progesterone slows down the movement of food through the intestines and she becomes constipated —causing her blood to become more acidic and toxic. With acidic blood and a stifled immune system, systemic fungal and viral infections in the mother's bloodstream become more acute causing serious inflammation and free radicals. Add in poor nutrition from the modern diet, high levels of stress during the pregnancy, and often invasive medical interventions during labor and delivery and you have a fetus that begins life at risk for autism.

But aren't most all fetuses experiencing this difficult start to life? Why do only some children become autistic? Why do most cases of autism appear after vaccinations?

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Our bodies were created with an innate ability to purify. Every newborn needs to be able to purify or cleanse out toxins inherited from its parents and grandparents. In today's baby, the detoxification pathways are not strong and vital as they were generations ago. In fact, parents of an autistic child will tell you that their child was constipated from birth. Their detoxification pathways are not open and they cannot cleanse with childhood fevers, runny noses, etc. Today's children are very much at risk for autism because they also lack a healthy inner ecosystem that should have begun developing at birth.

A healthy inner ecosystem is made up of the friendly microflora (good bacteria and yeast) that reside in your intestines and keep you healthy and strong. Seventy-five to eighty-five percent of our immunity is located in the lymph tissue in our inner ecosystem...our intestines. Babies who lack this inner ecosystem have poor immunity.

#### **BLOOD TYPE A**

While research about the exact cause of autism is mixed, doctors are beginning to acknowledge that environmental agents and infections may play a key role in the health of the young.

Researchers have found that children with autism have inflammation in their brains. Their cytokines, the chemicals produced by the immune system to organize attacks against pathogens, are always switched "on," causing constant inflammation. Basically, these children have infections in their brains and inflammation in their intestines.

They have a fungal infection passed unknowingly from mother to child while in the womb or from the use of antibiotics soon after birth. It makes sense, then, that blood type A children, who are naturally more sensitive to immunological stresses, are more susceptible to developing autism.

Roughly 8 out of 10 children with autism are blood type A. Blood type A is the most sensitive blood type - one prone to infection and acidity.

Here are some general characteristics of blood type A:

 In general, people with type A blood tend to have more sensitive constitutions and are more prone to diseases.

Too much stress (from food, medicine, chemicals, hormones and lifestyle stress) weakens their immunity much more quickly than other blood types.

 Low stomach acid and digestive problems are more common earlier in life for blood type A's, even from birth.

Low stomach acid may not seem like a big deal but it is! When stomach acid (HCL) is low you will not digest proteins well. You will become protein malnourished even if you are eating adequate amounts of protein daily. If you are blood type A you should take special care when eating animal proteins. Digestive enzymes and fermented foods and drinks are mandatory for type A's to maintain a healthy inner ecosystem.



When stomach acid is low cortisol will be elevated.

Research shows that protein malnourishment elevates the stress hormone, cortisol. Signs of protein malnourishment in children are poor muscle tone and swollen bellies...a common symptom in autism.

When cortisol levels remains chronically high it will affect your personality making you feel anxious and more of a perfectionist. You will find it difficult to truly relax and sleep deeply...important for healing.

Elevated cortisol also depletes your sexual hormones (estrogen, DHEA, progesterone, testosterone) and one will age more quickly. When chronically elevated, cortisol is called, "the death hormone". Unfortunately, this means autistic children are destined to age quickly and are more susceptible to hormone and sleep problems as they age unless this problem is addressed and conquered.

Low Stomach acid means mineral deficiencies

I have come to believe that minerals may be the most essential of all nutrients. They are essential for assimilation of protein. They keep your blood slightly alkaline so that viruses, fungi, bacteria and cancer cells do not grow as easily. Of course, having said this, healthy fats are essential for assimilating minerals so in truth all the nutrients must be included in your diet each day and this is do-able with The Body Ecology Diet.

Knowing the special characteristics of people with blood type A, it becomes easier to understand why autism is more prevalent among this subset of the population. Their blood is more acidic, their immunity is weaker, their body repairs more slowly and their inner ecosystems are more susceptible to imbalances and dysbiosis.

The good news is that The Body Ecology System of Health and Healing is ideally suited to bring the body and the inner ecosystem of blood type A children and adults (and all blood types, for that matter) back into balance.

So, whether a child is blood type A or not, immune function is key to preventing and treating the "brain and qut infections" that characterize autism spectrum disorders.

#### STEM CELL THERAPY

Stem cell therapy is a welcome discovery in our fight to greatly improve or eliminate autism from the lives of our children. Stem cells are primal cells that can divide and differentiate to become like any other more specialized cells in your body. The three types of stem cells are embryonic stem cells, adult stem cells and cord blood stem cells.

Embryonic stem cells are the most controversial because they are harvested from human embryos, while the other stem cells can be obtained from adult tissue or from the umbilical cord and placenta of newborn babies and their mothers without damage to them.

Children with autism suffer from two major conditions:

- 1. Hypoperfusion
- 2. Immune dysregulation

Hypoperfusion is decreased blood flow to the brain, meaning that the brain does not receive enough oxygen and cannot function normally. Any time there is not enough blood flowing to the brain, the brain cells become inflamed and make more nitric oxide. This opens up the cells to receive too much calcium, which damages the mitochondria (that make the energy for cells). As a result, the brain cells die from lack of food.

Immune dysregulation in children with autism means that their immune systems do not respond normally to stimulation. When the body signals to the immune system that it needs help (like when the brain becomes inflamed) the proper immune response and subsequent healing do not occur in children with autism. Immune dysregulation is very apparent in the gastrointestinal health of children with autism.

Instead, children with autism often have continually suppressed immune systems, chronic inflammation and suffer from autoimmune responses. An autoimmune response happens when your body does not recognize your cells as your own and actually attacks the good cells. Autoimmune disorders include Crohn's disease and multiple sclerosis, in addition to autism. Most suffer from symptoms ranging from diarrhea, gas, and bloating to intestinal lesions and inflammation of their gastrointestinal system.

Researchers have discovered that two kinds of stem cells can specifically address the hypoperfusion and immune dysregulation that are characteristic of children with autism. CD34+ stem cells from cord blood and mesenchymal stem cells (MSC) have been used as a successful autism treatment. Cord blood CD34+ stem cells injected into the patient improve blood flow to the brain, which supplies the brain with more oxygen and results in improved central nervous system functioning. Mesenchymal stem cells are used to heal immune dysregulation in people with Crohn's disease and can also suppress the inflammation in children with autism and address their fundamental immune abnormality.

Using these two kinds of stem cells together can heal both the brain and the gut for a unique treatment that has great potential!

The Body Ecology system for health and healing is especially suited to treating autism and can be the "main course" of the autism solution. This all-natural program impacts health even without stem cell therapy!

#### The Body Ecology system:

- Creates the needed energy to heal
- Boosts immunity
- Helps heal gastrointestinal distress
- Helps detoxify your body
- Conquers infections because it is anti-fungal and anti-viral

Body Ecology is unique because it is based on seven universal principles that when practiced lead to answers for most health problems. These principles show us how to create ideal health and they are timeless and work for anyone. We also emphasize the healing of your intestines as one of the most important first steps to great



health. By encouraging the growth of good bacteria in your gut with our 7 superfoods along with fermented foods and drinks, you naturally create a healthy inner ecosystem that supports your health and healing, no matter what your current condition!

#### Here are the important components to defeating autism with the Body Ecology program:

- Antioxidants in fresh, whole foods reduce inflammation
- Fermented foods and drinks like raw, cultured vegetables and fermented drinks populate your gut with the beneficial bacteria (probiotics) that keep you healthy and strong.
- Regular exercise including walking, yoga and rebounding enhance oxygen in your blood, health, emotional wellbeing, and digestion.
- Improving emotional health with the Emotional Freedom Techniques (EFT) and meditation helps rid your
  mind of emotional toxins that create stress and illness. There are two other techniques we suggest you
  explore. Dr. Darren Weissman's Lifeline Technique, a way of clearing subconscious, suppressed emotions
  (that we don't even know that we have) so you can heal symptoms of pain, illness and stress.
- Detoxification clears your body's natural elimination pathways, which is especially important for children
  with autism. Body Ecology does this beautifully using Young Coconut Kefir. This refreshing drink, rich in
  probiotics, cleanses your liver and removes toxins (like heavy metals) naturally.
- Preparing for pregnancy before conception. Prospective new moms and dads can create healthy babies
  by following the Body Ecology Way of Life for at least six months before they conceive their baby. By
  nourishing her body with delicious foods of The Diet and by following our detoxification guidelines,
  autism, ADD and many other childhood illnesses can be totally prevented.

Truly, autism is a wake up call from our children, showing us the rampant toxicity in our food and our environment. We can all benefit from taking action to stop this tragic epidemic. Let's quickly learn the lessons these beautiful children are bringing to us and begin right now to improve the health of children and adults everywhere in the world.

# www.bodyecologydiet.com





# **Enzymes and Autism**

By Kristin Selby Gonzalez Director of Autism Education for Enzymedica Autism Diet Specialist Mother of Jaxson, diagnosed with autism

When I was pregnant, I read all of the most popular pregnancy books, and I never saw a chapter called: "What to do when your child is diagnosed with autism." They must have left those chapters out of my books.

It would seem that when your child receives a diagnosis of autism, you are suddenly expected to have a special degree in developmental disorders if you want to understand what the professionals are talking about. Honestly, I have been training in autism treatment for over 4 years now, and I still have a hard time pronouncing some of the language used in the mainstream press and books on this topic. My guess is that many of you are like me and you did not go to medical school. You just want to understand enough of the basic terminology so that you can help your child.

That brings us to the topic of enzymes. Before my son was born, the only thing I recall hearing about enzymes was that they were in my laundry detergent and household cleansers. But as I have come to see, enzymes are also a part of human biology. I soon learned that the application of enzymes for autism is a lot more complicated than getting grass stains out of your jeans. To make this easier on you, I am not going to explain how enzymes work with words I can't even spell. Instead, I am going to talk in mom-friendly terms and just give you the basics you need to know to help your child.

• Digestive enzymes: These are substances that break down the food we consume. They make it possible for us to absorb nutrients and eliminate waste. Digestive enzymes are produced by the body and can be taken as a supplement. A digestive enzyme is a great place to start when incorporating enzymes into your plan of action.

#### For general digestion:

**Digest Basic, Digest or Digest Gold** These formulas vary in strength and potency. If a person is sensitive they may want to start with a lower potency formula such as Digest Basic or Digest and work their way up to Digest Gold.

#### For specialized digestion:

GlutenEase is for gluten and casein. This formula is great if you are concerned about cross contamination

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<sup>\*</sup>Some great products to consider when looking for a digestive enzyme supplement:

or for those instances when food containing gluten or casein is accidently given.

**CarbGest** is for phenols and carbohydrates. This is a terrific formula if there is an issue with phenols. (Read more below regarding phenols.)

**Gastro (formally V-Gest)** is a digestive enzyme that helps digest beans, rice and raw vegetables.

- Metabolic enzymes: These enzymes regulate every biochemical reaction that occurs within the human body, making them essential for life and health. These enzymes are what make it possible for us to see, hear, feel, move and think. Only the body can produce these kind of enzymes and as we get older our supply of these enzymes decreases.
- Food Enzymes: These enzymes come from the raw food itself. Raw food contains only enough enzymes to digest that particular food.
- Therapeutic Enzymes: These enzymes come in supplement form and are typically taken on an empty stomach, away from food. These enzymes go after things that are dead, damaged or things that do not belong in our bodies. It is important to know that enzymes will never go wasted in the body.

**ViraStop** helps the body rid itself of toxins such as viruses, and **Candidase** helps the body rid itself of yeast. Many of our children have viruses and yeast issues. As many of you have discovered, once you try to attack the yeast issues, the viruses become stronger. When you attack the viruses, the yeast becomes stronger. So what we need to do is successfully balance both types of organisms and their toxic byproducts. Using therapeutic enzymes like ViraStop and Candidase will help balance both virus and yeast populations in the body.

#### What are phenols?

It is important to know that phenols are in almost all foods we eat, however, there are certain foods that have higher phenols in them. Some foods that are higher in phenols are things such as (but not limited to): bananas, chocolate, cheese, apples, grapes, and tomatoes. Phenols are also in a lot of the fruit we eat.

#### How do phenols affect children with autism?

Some children may experience:

- laughing at inappropriate time (at night or when something is not funny.)
- strange rashes that appear on the body
- up and down behaviors and moods
- self stimulatory behaviors
- night wakening
- difficult or irregular stools (with constipation, diarrhea or undigested foods.)
- headaches
- physical symptoms such as red ears and cheeks, and dark circles under the eyes.

<sup>\*</sup>Some great products to consider when looking for a therapeutic enzyme supplement:



# How are phenolic compounds detrimental to individuals suffering from phenol sensitivities?

Some experts believe that phenolic compounds can become "trapped" within the body's metabolic cycles, affecting our various detoxification pathways.

#### Is there any treatment?

While it may be possible to reduce one's consumption of the phenols and salicylate compounds found in food additives such as colorants and flavorings, phenols are relatively omnipresent in all plant based foods. In addition to the dietary restrictions a digestive enzyme supplement containing xylanase specific for phenol digestion may help reduce symptoms. I recommend CarbGest from Enzymedica.

#### Are there any websites that talk about phenols and diet?

www.feingold.org

#### Why Enzymes for Autism?

While I cannot speak for all children diagnosed with autism, I can tell you that many of the children I come into contact with, including my son, have digestive issues. I provide my son with what I believe to be the cleanest and best diet possible, and yet his body really needs supplemental enzymes for optimal digestion. Perhaps his body is unable to produce enough enzymes by itself. Regardless, he has greatly benefited from the supplemental enzymes I give him in conjunction with the dietary modifications we have made. This became particularly clear to me when I learned that the vitamins and nutrients in his diet cannot be properly absorbed into his body and brain without enzymes to break them down and prepare them for assimilation.

# What is the connection between autism and digestion?

Current research has showed that the brain and body influence one other in countless ways. I believe like many others that there is a brain-gut connection. As a mom, it makes sense to me that when my child's digestive system is not working properly he will feel poorly and act out to make this fact known. I know from my own experience that if I am feeling ill, it is generally difficult to concentrate and process new information. More importantly, I become cranky as indigestion affects my behavior and how I cope.

My belief in the brain-gut connection was reinforced after my son's blood tests, when I was informed that when he eats certain foods, substances are released into his blood that severely disrupt his brain function.

To understand how the brain-gut connection works, it might help to relate the experience to something that you are familiar with in your daily life. Think about how you feel when you consume a glass of wine. Do you think your brain is affected by the wine? Of course it is. Each and every substance we put into our bodies has a direct affect on how we function and feel, whether it is food, drink, or medications.

#### If the body makes enzymes, why supplement?

Some children on the autism spectrum, like my son, do not make a sufficient amount of enzymes to facilitate optimal digestion. When you see a child experience cramping, bloating, constipation or diarrhea, it is a clear sign that something is not working properly.

\*Note to parents: look at your child's poop patterns. Look at the consistency, the color, and if there are food particles remaining. These are signs to help gauge the effectiveness of your child's digestive process.

#### If I supplement enzymes, does that mean my child's body will stop making them?

No, your child's body will not stop making them. You are simply giving your child's body a break, reducing digestive stress. Keep in mind, it takes up to 80% of our body's energy to digest our food. So many of our children, my son included, are working hard in other ways to rid their bodies of toxins. Reducing the stress on our children's digestive systems can be enormously beneficial to aid detoxification.

#### Can I use enzymes as an alternative to any special diets?

I do not recommend using enzymes as an alternative to dietary modification. I have seen with my own son that when I combine diet and enzymes, it brings the best of both worlds together.

Some diets to consider are: the Gluten Free / Casein Free Diet, the Specific Carbohydrate Diet, the Body Ecology Diet, and the Feingold Diet. For more information on these diets check out the following websites:

www.gfcfdiet.com www.pecanbread.com www.bodyecologydiet.com www.feingold.org

### Are all enzymes created equal?

All enzymes are not created equal. Here are some things to consider when evaluating an enzyme supplement: Is the product a broad spectrum enzyme? Does it address different pH and temperature ranges? How are the ingredients in the formula measured? (Some companies measure their product in weight, which tells you nothing about the potency of the ingredients.) Lastly, I encourage you to investigate the manufacturer. I prefer buying supplements from a company that has a high level of integrity and takes pride in their products.

### Tips on how give your child enzymes if they do not swallow capsules:

Twist open the capsule and mix it with a small amount of water or juice, depending on what diet your child is on. Stir and have your child drink it down before the first bite of food. With digestive enzymes you will be giving the product with food, and for therapeutic enzymes you will be offering it on an empty stomach.

If your child resists taking enzymes in liquid, try opening the capsule and mix it in applesauce, pear sauce or



whatever is allowed on their diet. Give it to your child all in one bite. You can do this with both digestive and therapeutic enzymes.

\*Note to parents: When using any method which requires opening a capsule, you may see some irritation around your child's mouth. This is not something to worry about and it has an easy solution. The cause: generally, such irritation is the result of the enzymes breaking up dead skin cells around the mouth. The remedy: put a small amount of olive oil on a washcloth and dab your child's lips and the corners of the mouth. This will act as a barrier.

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# Progressive Approach to Enzyme Therapy for Autism

By Karen De Felice, M. Sc.
Author Enzymes for Autism and other Neurological Conditions
Mother of two sons with pervasive neurological and sensory integration dysfunctions

In the eight years since enzyme therapy really developed a firm foundation for autism conditions, this option has both progressed and yet remained true to the initial guidelines developed through the efforts of typical families. Although enzyme therapy can be started in a variety of ways, a best bet approach follows.

First, consider enzymes with food for the fundamental use of digesting your food so you can get maximum nutrition from food as well as reduce any potential harmful effects from poorly digested food. Enzymes are beneficial no matter what diet or eating plan you follow. Afterall, you still need to digest any special diet food and reap the nutrition from that food. Any supplements or medications will also benefit from enzymes because you will be able to get more actual amount of the substance from what you swallow.

There are many more enzyme products available for sensitive individuals and for special eating plans. The wide variety of enzyme products to choose from today simply were not available as an option either years ago.

Taking enzymes regularly with food for a couple months will help with gut healing and correcting problems related to poor gut health. After that, see what symptoms or issues may be 'left over' and focus on avenues that deal with those issues.

One issue that is commonly left over is yeast overgrowth. Yeast is tough to root out because it burrows so intensely into its host environment. Even though beginning enzymes with food can produce some relief, you are likely to need other measures to really get the yeast under control. Enzymes taken with meals will help deprive the yeast of their food supply helping to starve them out, while you gain the nutrition making your body even stronger against it.

Adding in a yeast-targeting enzyme product between meals along with a yeast-targeting supplement or product can give you the added kick in yeast control you are looking for. Keep in mind that anytime you add something that help kill back the pathogenic yeast, you may have some die-off symptoms. The die-off symptoms can also be addressed with specific enzymes.

After you address the yeast problem, a number of symptoms may be gone, but a few are still left over. This situation plays out in a different way too. Some people may benefit and regain all their health with just enzymes for food digestion. They do not need to continue on with something else. Some people will still need more and progress to yeast-control or other enzymes between meals as well. This will be enough for a percentage of that group to gain all their health without further action. However, some folks will still need more. Typically, those

that have gone through many measures and are still left over may need to consider viral problems.

Viruses are very difficult diseases. They can lie latent in the body for years before emerging, or they can slither around throughout your body in stealth-like fashion causing a various array of hard to diagnose symptoms. There may be a cycling of good health followed by unexplained illness followed again by unexplained recovery back to unexplained illness over and over. People with autism or viral problems may appear 'less autistic' or healthier when they run a fever. When the fever goes away, the problems return.

If you are dealing with unexplained left over symptoms that nothing really helps with, consider a viral problem. There has been great success with using short-term, higher-doses of particular enzyme products to help with viral problems in both autism conditions as well as in the general populations. The program is known in general as the Virastop program, although other products with similar enzymes may be helpful.

Although you can start any enzymes in any order, this approach to enzyme therapy is a progressive one where each step builds upon and supports the next. First, take enzymes for food digestion for across the board health improvement. Then, if you have left over issues, take enzymes between meals as well to focus on those additional issues. Then, if you still have left over specific health concerns, look into a specialized program for that need

This supports a low-n-slow yet very progressive approach that will address a wide range of digestive and health problems in an efficient manner.

Enzymes that I have found to be very effective are **Candidase**, **Digest Gold**, **GlutenEase**, **Kid's Digest**, **Lacto**, **V-Gest** (name changing to Gastro) and **ViraStop**. A few new products also made by Enzymedica that may prove to be beneficial to those dealing with autism include **CarbGest** (for phenols), **Digest Basic** (good inexpensive full spectrum digestive aid), and **Digest Sprinkles** (for kids unable to swallow capsules).

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# The Value of Attending Autism Conferences

By Teri Arranga, Director, Autism One By Jane Johnson, Executive Director, Defeat Autism Now! (DAN!) By Wendy Fournier, President, National Autism Association (NAA)

#### From Teri Arranga, Director, Autism One

You are not alone. Many thousands of parents have moved their children forward on the road to recovery, and multitudes of children have recovered. "Autism" is not a life sentence. It is a label for a constellation of physiological conditions just like many other illnesses and, as such, it is treatable and beatable.

Why go to a conference? Because at the conference you can use every one of your senses to absorb the volumes of information about legitimate time-tested treatments that can help your child. You can meet the speakers in person, and you can network with the parents who have helped their kids.

Often, an autism diagnosis leaves parents feeling isolated, especially if their first interaction - usually with a mainstream pediatrician, neurologist, or school administrator - tells them that there is no hope. Then it's just you having to deal with your child and their sorrowful suffering at home. You alone having to grieve for the shattered dreams of your beloved child's future. You alone sitting by a computer, searching for scattered clues.

You are not alone, and a conference brings it all together: all of the information in one place, all of the parents in one place, all of the speakers whom you can ask questions of in one place. AND you will be able to meet recovered children, too! You want evidence—THEY are the evidence!

At a conference, you can immerse yourself—distraction-free—in an ocean of information that you can take right home and help your child with! You will hear the scientific information, you will learn about a multitude of therapies, and you will be bathed in positive energy. The synergistic growth of ideas among professionals and parents at conferences abounds!

YOU are your child's best advocate. Come to a conference and tap into the reality of hope for your child!

# From Jane Johnson, Executive Director, Defeat Autism Now! (DAN!):

Before it was my job to do so, I used to attend the Defeat Autism Now! Conference every spring. For one thing, it's a deeply strengthening experience to be surrounded by hundreds of people who know how you feel. Second, ARI/Defeat Autism Now! Conferences are scheduled in sequence—they each start at the very beginning and

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build to more complex information. This was important for me as a beginner, but it's still important for me eight years later. Let's face it—this is complicated material, impossible to master the first time out. It's been beneficial for my child's program for me to revisit square one, making sure all of the elements are in place. When I read articles or watch conference videos at home, this bigger picture is lacking. (And sometimes I benefit from a little nagging, particularly about diet.) Spending time with other parents—learning how to best help our children—is truly inspiring—there's no substitute.

### From Wendy Fournier, President, National Autism Association (NAA):

At the National Autism Association conferences, the beautiful setting, the ability to relax and breathe among friends, and the knowledge that researchers and advocates are working for your child every day are very empowering factors. Other parents are right there at the conference to help you on-site and afterwards. Special workshops that focus on dads, marriage, safety, and more zero in on what concerns your family most. Being able to see and hear the science and strategies explained simultaneously by the presenters, who give you practical take-home tips to be implemented right away with your child, really drives the points home so that your child, your family, and your home can be healthier, happier places.

#### From Sara Smith, Autism One Conference attendee:

This was my first conference and it was amazing! I was provided with more information on ways I could help treat my son's autism than I knew what to do with! Being at this conference gave me a new hope for my son. The people are a wonderful group to be around, as well. Everyone in some way or somehow knows what you're dealing with, and the amount of support and understanding that I felt was overwhelming! Being at a function like this in person is better than anything you can read, watch, or hear because it's the best of the best information you could possibly get, and it's from people who have either been through it already or people who work with these children on an everyday basis. I am so fortunate to have been able to attend this year's conference and I plan to attend every one each year from here on out!

# From Vicki Sotack, DAN! Conference attendee:

I attended my first DAN! Conference after stumbling upon ARI's recovered kids video clip on the Internet. I had to know if this thing affecting my son was treatable, and if these folks were for real. I spent that weekend meeting hope and staring at the face of possible recovery through tear-filled eyes. That was the true beginning of our journey through autism. I learned so much from each of the presenters—I felt as if I was coming to know family members. This past weekend was my second DAN! Conference, and I truly felt like I was coming home again. I was inspired and encouraged...and yes, a little overwhelmed by the outpouring of support and continued hope—both for our children and for the many parents who will never, ever give up on them.

For more information about upcoming conferences, please visit:
 http://www.nationalautismassociation.org
 http://www.defeatautismnow.com
 http://www.autismone.org



I would like to take this opportunity to express our gratitude for all who contributed to the *Autism: What the Experts Know* Resource Booklet. A special note of appreciation is extended to Kristin Selby Gonzalez, Enzymedica's Director of Autism Education, for her coordination of the contributions which make up the final version of this booklet, and for championing the need to educate families with the knowledge that "recovery is no longer just a hope for our children, it's a reality."

To everyone who generously donated their time to help the autism community in such a meaningful way, thank you. The knowledge and wisdom that you have shared in this booklet will make a positive impact on so many families who are looking for options. On behalf of the parents and caretakers who will one day read this material and be inspired by its hope and practical advice, thank you. We are putting the pieces of the puzzle together, one piece at a time.

Much appreciation,

Tom Bohager President and CEO of Enzymedica Autism Hope Alliance Board Chairman



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