Treatment and Intervention Options

There are many questions about the fundamental cause of autism that have not yet been answered. Because we lack such a basic understanding, we do not have a cure for autism. There are, however, a variety of intervention options available (pharmaceutical and biomedical, therapeutic, and educational) that can be, to varying degrees, controversial. It is generally agreed by professionals, however, that some form of intensive educational interventions should be at the core of any treatment program, regardless of any choice to use, or not use, biomedical or therapy options.

Biomedical Treatments

Among the available options are biomedical treatments (interventions that affect functioning of bodily systems) that some families feel have been helpful to their children with autism spectrum disorders. Some of these choices have some documentation as to their effectiveness on specific symptoms. Certain medications, for example, have been proven to be helpful in reducing bothersome symptoms such as anxiety or obsessive/compulsive behaviors. Others, like dietary interventions, have little proven corroboration, but have been supported by families who say the improvements in their children's abilities or behavior are notable. There are also many other choices available; among them are some that are quite dangerous, and have little support from anyone other than the individuals who profit from them. It is often hard to know which is which, and although we include a short description of each of the more commonly known interventions, we do not offer a specific endorsement to any of them. We do, however, make the following recommendations. We advise families to seek extensive information and talk to many other families who have tried a biomedical intervention before beginning to use it. We also believe that systematic gathering of data will tell you whether or not you are on the right track. Chart or videotape (on a series of occasions, not just one day) your child before making any changes. Start the intervention and then chart or videotape again once you have reached the point where it should become effective (medications, for example, might take two days to four weeks to be fully effective – be sure to find out what the wait-time should be) and then chart again several weeks later to see if the changes last over time. You can decide from using such objective measures (rather than your own day-to-day recollection) if any change has taken place, how much of a change, and if the amount of change is worth the time, trouble or money to continue the therapy. Every family will make a different choice, and no one else can make that choice for them. ***Caution: Many of these listed can be expensive, and are not generally covered by insurance, though you may wish to check with your pediatrician for advice on filing insurance claims.***

Food allergies/sensitivities – *Some specialists in environmental medicine believe that brain function may be affected by a reaction to a certain food or family of foods, or other environmental substances. Sensitivity to these substances can result in behavioral, motor, learning or personality dysfunction. Typical allergy tests may not identify these substance sensitivities. Specialists in environmental medicine use a variety of tests that are different from typical allergy testing.*

Yeast/fungal overgrowth – *the thinking behind this theory is that overgrowth of candida yeast may occur when the intestinal environment is altered by a weakened immune system. This imbalance can, in turn, create dysfunctions in other areas of the body, including the brain.*

'Leaky gut' – *Related to the yeast/fungal theory, this term describes the belief that toxins produced in the digestive process pass through barriers in the intestine and enter the bloodstream due to a compromised immune system. These toxins then affect the rest of the bodily functions that depend on the integrity of the blood supply, including the brain.*

Symptoms of food allergy, yeast infection, and/or leaky gut are interrelated and often they are treated simultaneously. Treatment usually consists of a diet that eliminates foods that promote yeast growth along with supplements of 'good' bacteria and/or anti-fungal agents.

Gluten/casein free diets – *Due to some individuals' inability to properly digest and metabolize these types of proteins, they are thought to be a major contributor to the allergy/immune system connection. While this diet is somewhat hard to remain on for some families, it has some significant amount of support among people who have tried it.*

Vitamin therapy – *There is a theory that vitamin deficiencies, probably due to related digestive and environmental factors, can cause behavioral and learning problems. Certain specific vitamin regimens are felt to be effective by some families.*

Nutritional therapy – *Each person functions best with different levels of nutrients in the body. If these are not available in sufficient quantity it can affect performance of metabolism. There may also be toxins present in the system that can have an affect on levels of nutrients. Nutritional therapy is designed to provide the individual body's optimum level of needed nutrients through the use of supplements.*

Medications – *While there are many medications available that are effective for specific symptoms in some individuals, there is no medication that is effective*

for 'autism' as a whole. Medications can be effective if monitored by a knowledgeable physician for symptoms such as: anxiety, depression, hyperactivity, attention, obsessive-compulsive behaviors, aggressiveness, etc.

MMR connection – *There is a great deal of controversy currently over the possible connection of childhood vaccines and the onset of autism. While there is no irrefutable proof of a connection at this time, drug manufacturers have removed the mercury content in some vaccines. Some researchers have suggested that parents ask about the mercury content of a vaccine before immunizing, to be sure your child is receiving the newer vaccines. They also say that it might be advisable (at least until further information is available) to immunize individually rather than with multiple vaccines at one time, and/or that immunization be delayed until the child is older than the current two-year-old standard. It is, however, still required that children be immunized in CT before they can be registered for public school, and it is <u>not</u> generally recommended that children not be immunized at all.*

Metal detoxification – *There are some who support the research that metals which are known to be toxic (lead, mercury, etc.) are present in higher quantities in individuals with autism and other developmental disabilities, and that this may be related to their ability to function. It is not clear whether the reported levels are accurate, or whether it might be a cause of autism or simply an after-effect of some other agent. It is also not clear what therapies might be helpful, should it prove to be related. Chelation, or removing metals from the blood is a risky endeavor, and there is currently no firm evidence that this is effective.*

Secretin – *This was a popular infusion treatment in recent years due to a news report that hailed it's effectiveness. Secretin is actually a natural hormone that was used in diagnostic tests for intestinal ailments. Since that time, many studies have been done with little evidence of its effectiveness.*

Therapy Options

Occupational therapy – It is quite common for an occupational therapist (OT) to be involved in a child's educational and sometimes medical program, since many children on the autism spectrum have difficulty with fine motor skills including sensory-motor skills (skills that require the child to use senses and coordinate motor movements at the same time – like copying from the blackboard, doing puzzles, zipping a coat, etc.) and motor planning skills (planning and following through on a series of motions smoothly, like walking up stairs, climbing, or kicking a ball). Therapy has been shown to be successful in many of these areas to varying degrees (possibly due to the child's innate abilities, the amount of therapy, age at the start of therapy, etc.)

Sensory integration (SI)– People's understanding of SI has expanded in recent years. Specific techniques such as 'brushing' the body with a special soft brush in a particular routine to help regulate tactile defensiveness was often confused with a full SI program. While therapy for a child might include 'brushing', this is only a small part of sensory integration therapy. Many occupational therapists have accepted that sensory issues are critical ones for kids on the autism spectrum, and have integrated sensory strategies into their therapy sessions. These can include sensory diets (eliminating many distracting factors in the environment and slowly reintroducing them), deep pressure for calming the nervous system, exercises for establishing better balance and posture control, etc. Consultation between teachers and OT's to develop strategies in the classroom for better sensory functioning has been extremely useful for many children. Not all sensory interventions are conducted by SI-certified OTs, though training in sensory functioning and interventions is a recommendation.

Physical therapy – Not as often an issue, physical therapists work on larger motor movements, (like running) that are not necessarily related to motor planning, but to muscle ability. This therapy can be successful to varying degrees for those who require it, and again may depend on factors such as innate ability, amount of therapy, age at the start of therapy, etc.

Vision therapy – Many children with autism spectrum disorders are known to have visual and visual-motor dysfunction. Occupational therapists can work on related skills since they can affect abilities in writing and other tasks related to education and independence. Visual training can also be conducted by 'behavioral optometrists' who work on the child's ability to focus, maintain focus, use both eyes cooperatively, etc. There are also special lenses that have some support for their effectiveness in helping visual dysfunction in some individuals.

Auditory integration training – This therapy is intended to correct or improve auditory processing problems that may occur if the auditory messages received by the brain are distorted. It is also used for hypersensitivity to sound. It is believed that such sensitivity and sound distortion can lead to learning and behavior problems. The individual listens to music through headphones connected to a device that electronically modulates or transforms the sounds. Training is provided for 30 minutes, typically twice a day for 10 consecutive days.

Craniosacral therapy – *A non-invasive "massage-like" technique that is thought to free restrictions or inefficient movement of the cerebrospinal fluid around the cranial system which can affect the development and function of the spinal cord (which houses the nervous system). This is thought to result in sensory, motor, and intellectual dysfunction.*

Educational Interventions

Since children on the autism spectrum are so different from one another, and since there may be more than one cause for autism, there is a great deal of controversy over what is the 'best' educational program. While professionals and researchers may differ in their support of specific methodology, there are certain principles that all agree on. 1.) Intervention at the very earliest opportunity, 2.) intensity of programming (e.g. a lot of time and effort put into the program), and 3.) consistency of programming (without interruption, i.e. year round) are all supported by professionals regardless of their specific focus. This should be kept in mind when planning for the education of all children with autism spectrum disorders. It is also important to recognize that each method has some value, and that different children may need different approaches. The methods are not exclusive; which means that some children may benefit from a combination of methods, providing that none of the components are 'watered down' as new pieces are added.

Applied Behavior Analysis (ABA) – ABA is often misunderstood as a programming choice. ABA is not one single intervention, rather it is a collection of interventions that have been proven through research to be effective in changing or shaping behavior. ABA programs for children should be individually developed to consist of these specific methods which include: intensity of programming (a great deal of time devoted to it), positive reinforcement (rewarding the desired behavior rather than punishing the undesired behavior), breaking tasks down into manageable pieces or steps and teaching them in a developmental sequence, determining the function of behaviors through a 'functional behavior analysis', and charting the target behavior over time to determine amount of progress. Sometimes, this means using these methods together in 'discrete trials' (the term ABA is often misunderstood to mean *only* discrete trial) which involves: one-to-one teaching (one teacher, one child), targeting a set of developmental tasks (which have been broken down into do-able pieces), repeating them with great frequency and reinforcing success, charting success as the child progresses through learning that skill, and moving on to more complex tasks and generalization of the learned skill (being able to use it in context and in different environments). The amount of each component in a child's program would be determined by the individual child's needs. Using ABA requires a great deal of specific training and knowledge on the part of the therapist.

TEACCH – TEACCH stands for Treatment and Education of Autistic and Related Communication-Handicapped Children. This method considers the main focus of treatment to be 'autism' as a whole, rather than on 'behavior'. It utilizes supports for individuals through their lifespan, and concentrates on developing functional skills through structure, modifying environments, emphasizing different

learning modalities (i.e. visuals, hands-on, etc.), using natural environmental contexts, and generalizing skills to other environments.

PECS- Picture Exchange Communication System is used mostly with children who have limited or no speech. Based upon the premise that when children learn that they can get their needs met by communicating them to the people around them ("I want juice" = getting juice) they will learn to communicate more quickly and effectively. Pictures are used in addition to spoken language – the children can exchange pictures to indicate their needs and wants. This method has shown some success because of the use of visuals and because the communication is immediately reinforced (rewarded) with the requested item. This is an approach that is usually used in combination with others.

Greenspan (Floortime) – an integrated model that is child-centered and involves sensory and motor-planning play, and focuses on emotional development rather than cognitive or behavioral development. There is not much research to support it's sole use, though many programs include its principles in combination with others, especially with younger children.

In addition to these comprehensive methods listed here, there are numerous more specific interventions available for teaching social, independence, self-advocacy, self-help, self-regulatory, and academic skills. These include: Social Stories, the "Hidden Curriculum", Circle of Friends, the Alert Program: *How Does Your Engine Run?,* behavioral contracts, classroom and curriculum modifications, positive behavioral supports, and many more. These more focused interventions have been shown to be very successful for a majority of the children with autism spectrum disorders, though each cannot stand on its own as a full program. We encourage parents and professionals to learn as much as possible about the options so that they can make the most effective choices for the children they are involved with.