

AUTISM AND RELATED DISORDERS HANDBOOK



the **u**niversity of south dakota.
SCHOOL OF MEDICINE & HEALTH SCIENCES
CENTER FOR DISABILITIES

A University Center for Excellence in
Developmental Disabilities Education, Research and Service



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The *Autism and Related Disorders Handbook* is available in alternate format upon request.

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Spring 2002

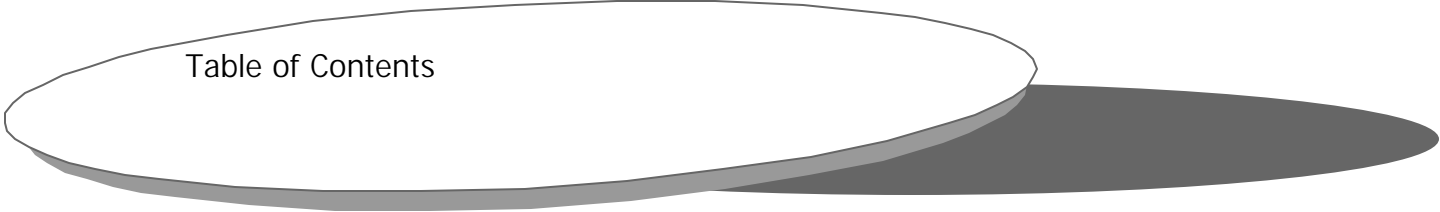


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Foreword

The Autism Handbook has been compiled and toiled over for several years. Its preliminary format was researched and painstakingly developed through the efforts of Julie Christian, a former Center for Disabilities Autism Specialist. Thank you, Julie, for all the time and energy you devoted to this!

Since Julie's initial efforts, several other people have assisted in the development of the handbook. Thanks go first to the families for providing the photographs and quotes that are found in the right margins of some of the pages. The afternoon we spent together gathering and sharing will stay with us forever. Thank you!

Next, editing credit goes to Pam Anderson, Kathy Miller and Heather Stettinichs. Thanks for minding the grammar! Credit for the layout and design go to Liz Fox who has seen it through numerous changes. Thank you, Liz, for your creativity and patience!

Lastly, thanks to Merrie Hammer for her artistic renderings of her son—past, present and future—to grace our sections pages. What a joy he is.

Please know that this is meant as a resource guide and a starting point to answer questions about Autism Spectrum Disorders. We hope you find it helpful.

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The logo consists of a white, horizontally-oriented oval with a thin black border. Inside the oval, the text "Center for Disabilities" is on the top line and "Autism and Related Disorders Program" is on the bottom line, both in a black, sans-serif font. To the right of the oval is a dark gray, horizontally-oriented oval that tapers at both ends, resembling a shadow or a stylized graphic element.

Center for Disabilities
Autism and Related Disorders Program

The Center for Disabilities Autism and Related Disorders Program was established through the efforts of parents of individuals with Autism Spectrum Disorders throughout South Dakota. These parents convinced state legislators of their need for independent interdisciplinary assessments and individualized educational and behavioral training for professionals. The Center for Disabilities Autism and Related Disorders Program is funded by a grant from the South Dakota Division of Developmental Disabilities and administered through the Center for Disabilities, Department of Pediatrics, the University of South Dakota School of Medicine.

A variety of assessment, consultative and training services are provided to families, schools, and adult service agencies in South Dakota. The services provided by the Center for Disabilities Autism and Related Disorders Program include:

- Observation and informal assessment of learning, communication, social skills, and daily living skills.
- Functional assessment of challenging behavior and assistance with the development of an appropriate behavior support plan.
- Hands-on training, in-services and workshops for parents and professionals regarding specific techniques and strategies.
- Consultation for the development of individualized programs, inclusion, and disability awareness training.
- Clinic evaluations for diagnosis and assessment conducted by an interdisciplinary team of professionals with experience and expertise in the area of autism.
- Family support groups.
- Autism Advisory Committee.
- Dissemination of information.

The Center for Disabilities Autism and Related Disorders program provides resources, including books, videos, audiotapes, and journals on autism and other disability issues, through the Wegner Health Science Information Center [800-658-3080 (Voice/TTY)].

Parents or service providers may call 800-658-3080 to request consultative, training or evaluation services or send in a request for referral paperwork from our website, www.usd.edu/cd/autism. Clinic evaluations are held in Sioux Falls.

Introduction to Autism Spectrum Disorders



Pervasive Developmental Disorders Overview

According to the American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), Pervasive Developmental Disorder (PDD) is not a specific diagnosis, but an umbrella term under which specific diagnoses are defined: Autistic Disorder, Asperger's Disorder, Rett's Disorder, Childhood Disintegrative Disorder, and Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS). These disorders are grouped together because they share common qualitative impairments in the areas of social interaction, communication, and range of activities and interests. Currently, no medical tests can be done to indicate the presence of these disorders. When an individual is suspected of having a Pervasive Developmental Disorder, a review of the person's developmental history in areas such as speech, communication, social and play skills is critical as part of an evaluation. Ideally, an interdisciplinary team of professionals including, but not limited to, a psychologist, an educator, a speech language pathologist, an audiologist, and in some cases a physician, should evaluate the person and work together to determine an appropriate diagnosis.

Autistic Disorder

Autism is a lifelong developmental disorder that affects an individual's abilities in the areas of communication and social interaction. Leo Kanner first described it in 1943. In his study of eleven boys, he distinguished it from childhood schizophrenia. Criteria for diagnosis are arranged under three categories: social interaction; communication; and restricted, repetitive and stereotyped behaviors and interests. An additional criterion specifies the onset to have occurred before the age of three years. Autism occurs in 2-5 per 10,000 live births, and 3-4 times more often in boys than girls. It is the third most common developmental disability. Cognitive impairment often co-occurs with autism; 70-75% of people with autism also have mental retardation (IQ below 70). Fifty percent of individuals with autism develop functional communicative language. Autism is a spectrum disorder with symptoms ranging from mild to severe. The term high functioning autism is not a diagnostic term, but is used to refer to individuals who have autism and normal to above normal intelligence. The exact cause of autism is unknown; however, research has determined that it has a biological cause and it is not psychological. While there are many strategies that assist an individual to learn important functional skills, there is no treatment or intervention strategy that cures autism.

For more information: Autism Society of America
7910 Woodmont Avenue, Suite 300
Bethesda, MD 20814
(800) 3-AUTISM www.autism-society.org

Asperger's Disorder

Asperger's Disorder is a developmental disorder that is characterized by a severe impairment in the areas of social interaction and restricted and unusual patterns of interest and behavior. Dr. Hans Asperger, a pediatrician from Vienna, Austria, first described this disorder in 1944, one year after Leo Kanner first wrote about autism. At the time they were unaware of each other's work, but their patients shared many commonalities. However, the children that Asperger observed were not as delayed in speech, and the onset seemed to be later than the children studied by Kanner. Asperger's Disorder was not officially recognized as a diagnosis until 1994 when it was included in the DSM-IV.

For more information: Asperger Syndrome Coalition of United States
P.O. Box 351268
Jacksonville, FL 32235
866-4-ASPRGR (866-427-7747) www.asperger.org

Rett's Disorder (Rett Syndrome)

Rett's Disorder is a developmental disorder that occurs almost exclusively in females in 1 per 22,800 live female births. Severe impairment of receptive and expressive communication and apraxia (dyspraxia) are characteristic of Rett's Disorder. The child has a period of normal development until age 5 months. Within 6-30 months the child's development stops or regresses. The child loses communication skills, which may be mistaken for hearing loss, and purposeful use of the hands. Stereotyped hand movements (hand wringing or hand washing), poor coordination of gait, and a slowing of the rate of head growth appear following the regression. Seizures and disorganized breathing patterns may also occur. Rett's Disorder is most often misdiagnosed as autism, cerebral palsy, or non-specific developmental delay. It was first described by Dr. Andreas Rett from Vienna, Austria and was recognized throughout the world in 1983. The October 1999 issue of Nature Genetics (Vol. 23) reports that the protein MeCP2 is responsible for Rett's Disorder. This establishes Rett's Disorder as the first human disease caused by defects in a protein involved in DNA methylation. The research also supports Rett's Disorder being added to a small but growing number of human genetic disorders that involve abnormal chromatin packaging and gene expression.

For more information:

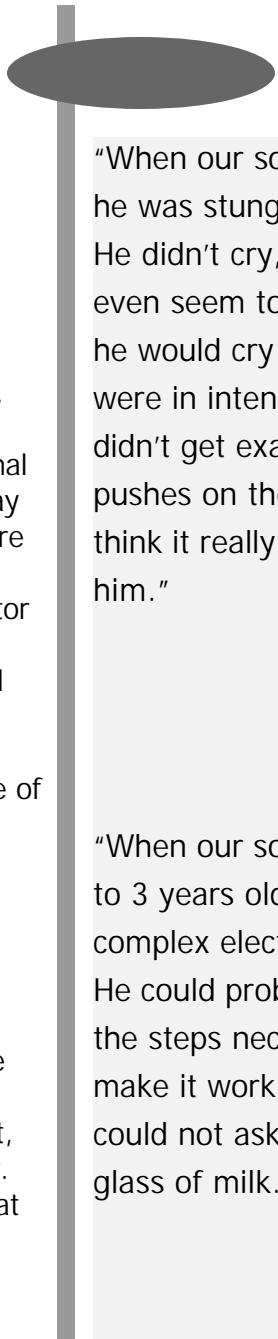
International Rett Syndrome Association
9121 Piscataway Road
Clinton, MD 20735
(800) 818-RETT
www.rettsyndrome.org

Childhood Disintegrative Disorder

Dr. Theodore Heller first identified Childhood Disintegrative Disorder (CDD), also known as Heller's Syndrome, in 1908 in Vienna, Austria. CDD is characterized by regression in development after at least two years of normal development. Prior to the regression, the child exhibits age-appropriate play and communication skills. The loss of skills usually develops gradually before the age of 10 years in at least two of the following areas: expressive or receptive language, social skills, bowel or bladder control, play skills, or motor skills. A period of unspecified anxiety or agitation may occur prior to the regression. Generally, the regression occurs between the ages of three and five years. Following the loss of skills, CDD is difficult to distinguish from autism. Therefore, the history of the child's development is critical to an accurate diagnosis. Childhood Disintegrative Disorder has a prevalence rate of 1 per 100,000 births, affecting more males than females.

Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS)

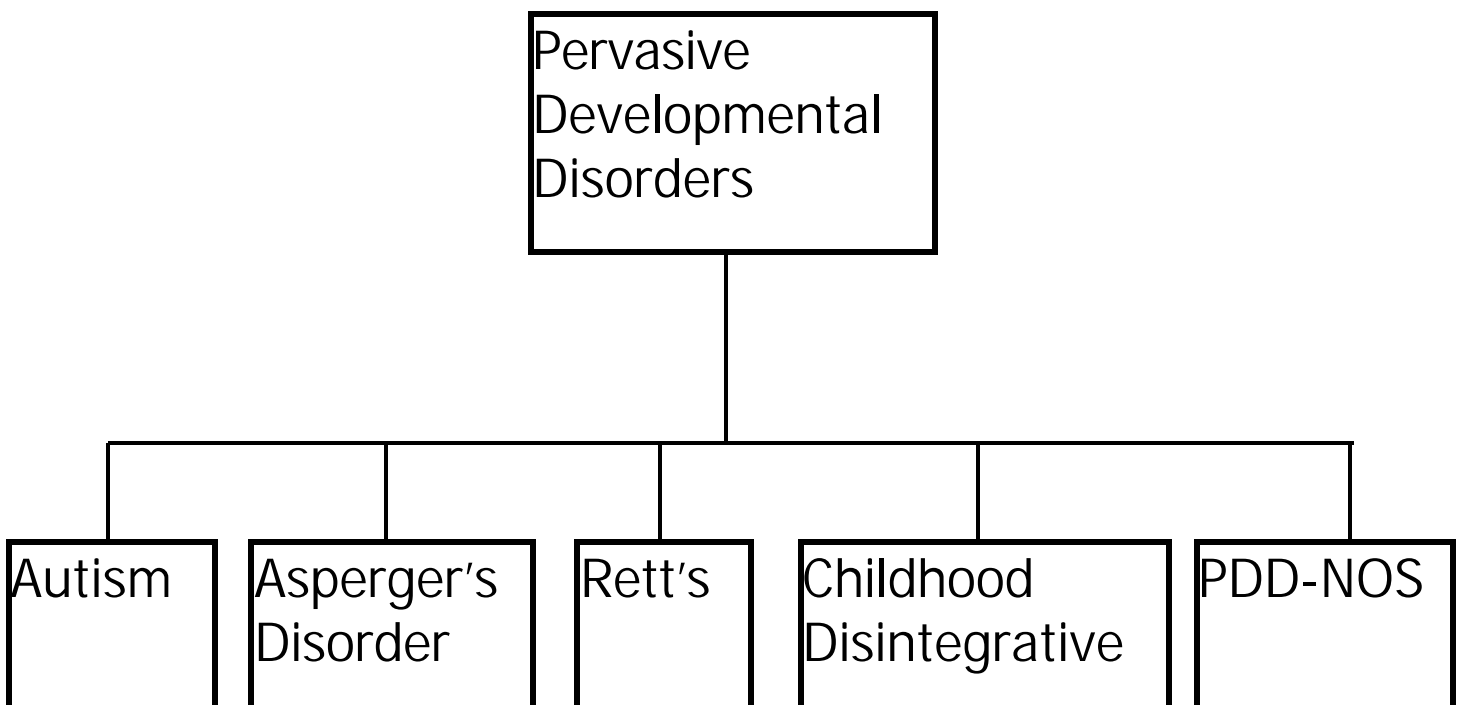
Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) is diagnosed when an individual has a severe and pervasive impairment in the development of reciprocal social interaction or verbal and nonverbal communication skills, or when behavior, interests, and activities are present, but the criteria are not met for a specific Pervasive Developmental Disorder. This category also includes "atypical autism," for example, presentations that do not meet the criteria for Autistic Disorder because of late age of onset, atypical symptomatology, or subthreshold symptomatology. A common misunderstanding about PDD-NOS is that it is "mild autism." This is not accurate. Although PDD-NOS is a separate diagnosis from autism, the same interventions may be effective for both diagnoses.



"When our son was small he was stung by a bee. He didn't cry, he didn't even seem to notice. But he would cry as if he were in intense pain if he didn't get exactly ten pushes on the swing. We think it really did hurt him."

"When our son was 2½ to 3 years old he made a complex electrical circuit. He could problem solve the steps necessary to make it work but he could not ask us for a glass of milk."

Autism Spectrum Disorders = Pervasive Developmental Disorders (PDD)



Pattern of deficits:
social, communication, behavior/interests,
onset prior to 3 years of age



Diagnostic Criteria

The following is taken from the DSM-IV published in 1994 by the American Psychiatric Association.

299.00 Autistic Disorder

(A) A total of six (or more) items from (1), (2), and (3), with at least two from (1), and one each from (2) and (3):

- (1) qualitative impairment in social interaction, as manifested by at least two of the following:
 - (a) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
 - (b) failure to develop peer relationships appropriate to developmental level
 - (c) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)
 - (d) lack of social or emotional reciprocity
- (2) qualitative impairments in communication as manifested by at least one of the following:
 - (a) delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gestures or mime)
 - (b) in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
 - (c) stereotyped and repetitive use of language or idiosyncratic language
 - (d) lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level
- (3) restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:
 - (a) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
 - (b) apparently inflexible adherence to specific, nonfunctional routines or rituals
 - (c) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
 - (d) persistent preoccupation with parts of objects

(B) Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years:

- (1) social interaction,
- (2) language as used in social communication, or
- (3) symbolic or imaginative play.

(C) The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder.

299.80 Rett's Disorder

(A) All of the following:

- (1) apparently normal prenatal and perinatal development
- (2) apparently normal psychomotor development through the first five months after birth
- (3) normal head circumference at birth

(B) Onset of all of the following after the period of normal development:

- (1) deceleration of head growth between ages 5 and 48 months
- (2) loss of previously acquired purposeful hand skills between ages 5 and 30 months with the subsequent development of stereotyped hand movements (e.g., hand-wringing or hand washing)
- (3) loss of social engagement early in the course (although often social interaction develops later on)
- (4) appearance of poorly coordinated gait or trunk movements
- (5) severely impaired expressive and receptive language development with severe psychomotor retardation

299.10 Childhood Disintegrative Disorder

(A) Apparently normal development for at least the first 2 years after birth as manifested by the presence of age-appropriate verbal and nonverbal communication, social relationships, play, and adaptive behavior.

(B) Clinically significant loss of previously acquired skills (before age 10 years) in at least two of the following areas:

- (1) expressive or receptive language
- (2) social skills or adaptive behavior
- (3) bowel or bladder control
- (4) play
- (5) motor skills

(C) Abnormalities of functioning in at least two of the following areas:

- (1) qualitative impairment in social interaction (e.g., impairment in nonverbal behaviors, failure to develop peer relationships, lack of social or emotional reciprocity)
- (2) qualitative impairments in communication (e.g., delay or lack of spoken language, inability to initiate or sustain a conversation, stereotyped and repetitive use of language, lack of varied make-believe play)
- (3) restricted, repetitive, and stereotyped patterns of behavior, interests, and activities, including motor stereotypies and mannerisms

(D) The disturbance is not better accounted for by another specific Pervasive Developmental Disorder or by Schizophrenia.

299.80 Asperger's Disorder

(A) Qualitative impairment in social interaction, as manifested by at least two of the following:

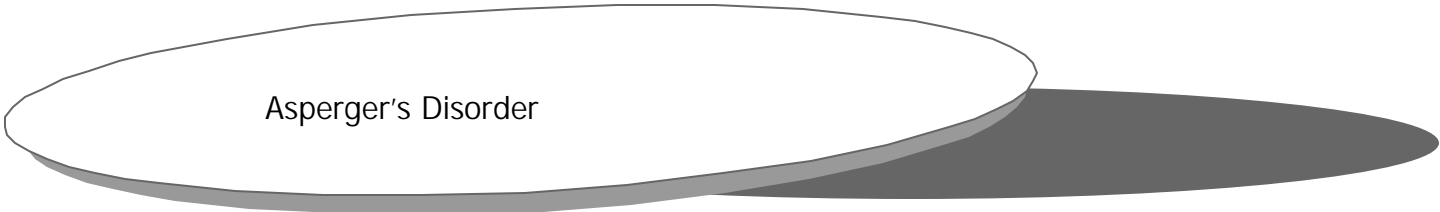
- (1) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
- (2) failure to develop peer relationships appropriate to developmental level

- (3) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)
 - (4) lack of social or emotional reciprocity
- (B) Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:
- (1) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
 - (2) apparently inflexible adherence to specific, nonfunctional routines or rituals
 - (3) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
 - (4) persistent preoccupation with parts of objects
- (C) The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.
- (D) There is no clinically significant general delay in language (e.g., single words used by age 2 years, communicative phrases used by age 3 years).
- (E) There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior (other than in social interaction), and curiosity about the environment in childhood.
- (F) Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia.

299.80 Pervasive Developmental Disorder Not Otherwise Specified (Including Atypical Autism)

This category should be used when there is a severe and pervasive impairment in the development of reciprocal social interaction or verbal and nonverbal communication skills, or when stereotyped behavior, interests, and activities are present, but the criteria are not met for a specific Pervasive Developmental Disorder, Schizophrenia, Schizotypal Personality Disorder, or Avoidant Personality Disorder. For example, this category includes “atypical autism” — presentations that do not meet the criteria for Autistic Disorder because of the late age of onset, atypical symptomatology, or subthreshold symptomatology, or all of these.





Asperger's Disorder

Asperger's Disorder (also known as Asperger Syndrome) is a newly recognized neuro-biological disorder that is a part of the Autism Spectrum (Pervasive Developmental Disorders). The disorder is named for the Viennese physician, Hans Asperger. In a 1944 paper, he described a group of young boys who displayed normal intelligence and language development, but who also demonstrated serious social, behavioral and communication impairments. Hans Asperger's paper was not translated until the 1980's. Hence, Asperger Syndrome was not added to the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV) until 1994.

Due to the relatively recent identification of the disability, some professionals, parents, and individuals dealing with the disability and the general public have really only begun to become aware of the needs and concerns associated with the disorder. However, Asperger awareness is increasing. The number of individuals affected is approximately within the range of 1 in 200 or 250 individuals (Kadesjo, Gillberg, and Hagberg, 1999).

Because research at this point indicates that the disability affects so many people, researchers and practitioners have gone to great lengths to identify and develop strategies that can facilitate school and home success.

Overview of the DSM-IV Diagnostic Criteria

- Impairment in social interaction
- Restricted, repetitive and stereotyped patterns of behavior, interests and activities
- Clinically significant impairment in social, occupational or other areas of functioning
- No clinically significant general delay in language (single words by two and phrases by three)
- No clinically significant delay in cognitive development or adaptive skills (outside social challenges)

Real World Examples

Children, young people and adults with Asperger's Disorder may display some and/or all of the following characteristics:

- socially awkward
- naïve and gullible (easy target for bullies)
- often unaware of others' feelings
- less developed conversational skills and difficulties with the give and take in conversations
- inappropriate body language or facial expressions
- difficulty managing stress; emotionally vulnerable
- unusually loud, high or monotonous voice or stilted manner of speaking
- limited play and leisure skills
- unusually accurate memory for details
- difficulty with sleeping or eating
- trouble with organizational skills
- difficulty taking the perspective of others
- easily upset by changes in routine
- literal in speech and understanding
- intense areas of interest
- unusual speech patterns (repetitive or irrelevant remarks)
- lacking peer and friendship establishment
- lacking an understanding of human relationships

With the push toward more appropriate program development, a whole host of new resources relating to Asperger's Disorder has emerged. This is very exciting, but can be precarious for individuals looking for good places to begin. The following resources are extremely helpful in terms of describing the disability, providing background information and outlining helpful supports and strategies for home and classroom implementation.

In addition, if anyone has concerns whether or not an individual has Asperger's Disorder, the Australian Scale for Asperger Syndrome (ASAS) is available on the internet (see Tony Attwood's web site listed below) or in Tony Attwood's text, Asperger Syndrome. The ASAS is a questionnaire designed to help identify individuals who have concerns and may need further assessment. This assessment tool can help families and professionals make decisions regarding the need for referral for further assessment related to Asperger's Disorder and can help with initial identification of areas of concern that need to be addressed. For more information, contact the Center for Disabilities Autism and Related Disorders program.

Asperger's Disorder Resources

Asperger's Syndrome: A Guide for Parents and Professionals by Tony Attwood (also on video)

What Does It Mean to Me? A Workbook Explaining Self Awareness and Life Lessons to the Child or Youth with High Functioning Autism or Asperger by Catherine Faherty

Do-Watch-Listen-Say: Social and Communication Intervention for Children with Autism by Kathleen Quill

Asperger Syndrome: A Guide for Educators and Parents by Brenda Smith Myles and Richard L. Simpson

Asperger Syndrome and Difficult Moments by Brenda Smith Myles

Asperger Syndrome and Adolescence: Practical Solutions for School Success by Brenda Smith Myles and Diane Adreon

The resources cited above can be obtained through the Wegner Health Science Information Center at 1-800-521-2987.

Websites

www.udel.edu/bkirby/Asperger

www.aspie.com

www.tonyattwood.com

Legal Definition of Autism in South Dakota

South Dakota Administrative rules pertaining to eligibility criteria for autism:

24:05:24.01:02. Screening procedures for autism

If a student is suspected of having autism, screening procedures for autism shall include a review of any medical, hearing, and vision data on the student; the history of the student's behavior; and the student's current patterns of behavior related to autism.

24:05:24.01:03. Autism defined

Autism is a developmental disability that significantly affects verbal and nonverbal communication and social interaction and results in adverse effects on the student's educational performance.

Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences.

The term does not apply if the student's educational performance is adversely affected primarily because the student has a serious emotional disturbance as defined under Part B of the Individuals with Disabilities Education Act as in effect on November 13, 1992.

24:05:24.01:05. Diagnostic procedures for autism

School districts shall refer students suspected as having autism for a diagnostic evaluation to an agency specializing in the diagnostic and educational evaluation of autism or to another multidisciplinary team or group of persons who are trained and experienced in the diagnosis and educational evaluation of persons with autism.

A student suspected of autism must be evaluated in all areas related to the suspected disability, including, where appropriate, health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status, and motor abilities.

The evaluation shall utilize multiple sources of data, including information from parents and other caretakers, direct observation, performance on standardized tests of language/communication and cognitive functioning and other tests of skills and performance, including specialized instruments specifically developed for the evaluation of students with autism.

24:05:24.01:06. Instruments used in diagnosis of autism

Instruments used in the diagnosis of students suspected of having autism include those which are based on structured interviews with parents and other caregivers, behavior rating scales, and other objective behavior assessment systems.

Instruments used in the diagnosis of students with autism must be administered by trained personnel in conformance with the instructions provided by their producer.

No single instrument or test may be used in determining diagnosis or educational need. Specific consideration must be given to the following issues in choosing instruments or methods to use in evaluating students who are suspected of having autism:

- (1) The student's developmental level and possible deviations from normal development across developmental domains;
- (2) The student's primary mode of communication;
- (3) The extent to which instruments and methods identify strengths as well as deficits; and
- (4) The extent that instruments and methods are tailored to assess skills in relationship to everyday activities and settings.

Characteristics and Early Indicators of Autism

Communication

- Uses behavior to express feelings
- Lack of development or delayed development of speech
- Echolalia (questions statements, sounds), delayed or immediate
- Perseverates on one topic
- Atypical tone or rhythm of speech
- Lack of or infrequent initiation
- Expresses emotions inappropriately
- Displays a narrow range of emotion, may have a flat affect
- Lack of conventional nonverbal gestures (i.e., pointing, head shake, nod)
- Doesn't orientate to another person speaking

Social Interaction (relating to adults, interacting with peers, and imitating the actions of others)

- Lacks understanding of social cues
- Inability to engage in simple social games such as pat-a-cake or peek-a-boo
- Difficulty in forming interpersonal relationships
- Avoids or uses eye contact in odd ways
- "Looks through" people
- Prefers to be alone or plays parallel to other children
- Lack of pretend or symbolic play
- Deficit in the development of joint attention
- Inability to imitate (body movement, vocal, motor)

Behavior (play and use of objects, insistence on sameness and routines, stereotyped body movements, unusual sensory interests)

- Uses toys in odd ways such as lining them up, spinning, etc.
- Engages in perseverative, unconstructive play
- Engages in repetitive body movements such as rocking, pacing, hand flapping, toe walking, spinning
- Develops attachments to inanimate objects
- Resists change in routine, people or environments (insists on sameness)

Other Characteristics and Early Indicators of Autism

- Over- and under-sensitivity to sound, smell, touch, visual stimulus and pain
- Physical overactivity or extreme passivity
- May appear to be deaf
- May not be cuddly or seek physical comfort from parents/caregiver
- Unusual display of emotion, for example, giggling or weeping for no apparent reason
- Uneven patterns of cognitive and motor development
- Problems sleeping
- Short attention span
- Impulsivity
- Lack of fear
- Abnormal eating habits
- Self-injurious behavior
- Aggressive behavior

CHAT (Checklist for Autism in Toddlers)

To be used by physicians or health visitors during the 18-month developmental check-up.

Child's Name _____

Date of Birth _____ Age _____

Child's Address _____

Phone Number _____ Parents _____

Parent(s) Signature _____

Section A. Ask Parent:

Date completed: _____

Circle Yes/No

1. Does your child enjoy being swung, bounced on your knee, etc.? yes no
2. Does your child take an interest in other children? yes no
3. Does your child like climbing on things, such as up stairs? yes no
4. Does your child enjoy playing peek-a-boo/hide-and-seek? yes no
5. Does your child ever pretend, for example to make a cup of tea, by using a toy cup and a toy teapot, or pretend other things? yes no
6. Does your child ever use his/her index finger to point to ask for something? yes no
7. Does your child ever use his/her index finger to point, to indicate interest in something? yes no
8. Can your child play properly with small toys (e.g., cars or blocks/bricks) without mouthing, fiddling or dropping them? yes no
9. Does your child ever bring objects over to you (parent) to show you something? yes no

Section B. Physician or health visitor's observation:

1. During the appointment, has the child made eye contact with you? yes no
2. Get the child's attention, then point across the room at an interesting object and say: "Oh, look? There's a (name a toy)!" Watch the child's face. Does the child look across to see what you are pointing at? yes no *
3. Get the child's attention, then give the child a miniature toy cup and teapot and say, "Can you make a cup of tea?" Does the child pretend to pour out tea, drink it, etc.? yes no *

4. Say to the child, "Where's the light?" or "Show me the light." Does the child point with his/her index finger to the light? yes no *
5. Can the child build a tower of blocks/bricks? (If so, how many?)
Number of blocks/bricks_____. yes no

SCORING & INTERPRETING THE CHAT

SCORING:

Section B-----3 Key Items:

Question #2 (skill: protodeclarative pointing): To record yes on this item, ensure that the child has not simply looked at your hand, but has actually looked at the object you are pointing to.

Question #3 (skill: pretend play): If you can elicit an example of pretend play in some other game, score a yes on this item.

Question #4 (skill: gaze monitoring): Repeat this item with "Where's the teddy bear?" or some other reachable object, if the child does not understand the word "light." To record yes on this item, the child must have looked up at your face around the time of pointing.

INTERPRETING:

If a child fails all 3 key items on 2 or more administrations of the CHAT (at age 18 months), that child has an increased risk of being diagnosed with autism. The child should be referred for further evaluation by a multi-disciplinary team trained in the assessment and diagnosis of Autism Spectrum Disorders.

If a child consistently fails question #2 and/or question #3, that child has an increased risk that he/she will be diagnosed with a language delay. Appropriate assessment and referrals are recommended in this situation as well.

To refer a child suspected of having characteristics associated with an Autism Spectrum Disorder, please contact the Center for Disabilities, Autism and Related Disorders Program at (605) 357-1431 or 1-800-658-3080 (V/TTY). We can also be reached via e-mail at bdschmid@usd.edu or at www.usd.edu/cd.

Scoring and interpretation guidelines adapted from the research articles:

"Psychological Markers in the Detection of Autism in Infancy in a Large Population," British Journal of Psychiatry, (1996), Vol. 168, pages 158-163. Authors: S. Baron-Cohen & Anthony Cox, et.al.

"A Screening Instrument for Autism at 18 Months of Age: A 6-year Follow-up Study," Journal of American Child and Adolescent Psychiatry, (2000), Vol. 39(6), pages 694-702. Authors: Gillian Baird, Tony Charman, Simon Baron-Cohen, Anthony Cox, et.al.

Intervention



Characteristics of and Support Strategies
for Individuals with Autism

Cognitive/Learning Style	
Characteristics	Support Strategies
1. Developmental discontinuity a. Strengths <ol style="list-style-type: none"> 1. Understanding visual information 2. Understanding spatial information 3. Understanding concrete rules and information 4. Motor memory 5. Good rote memory 	<ol style="list-style-type: none"> 1. Use gestures, demonstrate and provide physical prompts, use visual clues. 2. Be organized, help learner organize. 3. Be direct, be clear, be consistent. 4. Keep motor patterns predictable. 5. Reinforce it.
b. Weaknesses <ol style="list-style-type: none"> 1. Understanding symbols 2. Understanding means-ends and cause-effect 3. Understanding time-based information 4. Understanding abstract concepts and abstract information 5. Imitation 6. Ability to generalize 	<ol style="list-style-type: none"> 1. Teach symbols very systematically, pair symbols with words. 2. Have very clear beginnings and ends to activities, teach routines. 3. Use visual and auditory cues for time issues, picture schedules, written schedules, have learner involved in setting up and using schedule (have some motor aspect involved). 4. Use concrete, visual cues to illustrate concepts, relate concepts to personal experience. 5. Give time to respond, may need physical cue to begin, imitate the learner (playfully). 6. Use consistent cues, prompts, and consequences; teach in natural environments; teach (systematically) across a variety of places, people, and materials; with new skills, change one dimension of task at a time.
2. Typically learns things as “wholes”	Whole task presentation, global chaining, prompt placement, discrete trial format for instruction.
3. Difficulty identifying relevant cues	Highlight relevant cues.
4. Concern with maintaining sameness	Respect it, help the learner feel safe, teach strategies to manage change gradually.
5. For some, verbal IQ equals or exceeds performance IQ	Find opportunity for learner to use and be valued for those verbal skills.
6. May have talent in art, music or mathematics	Capitalize on that talent. Use it as an entry into various social groups.

Sensory Processing	
Characteristics	Support Strategies
1. Extremely passive or hyperactive	Be a detective – observe what kinds of places, people, activities, stimuli, seem to make the learner more or less active and attentive.
2. May experience sensory input differently (either more or less sensitive)	Be sensitive to the kind of sensory input the learner seems to seek out and avoid. Provide opportunities for learner to get the kind of stimulation she/he seeks (sensory diet). Try to minimize contact with stimuli that are aversive. Teach coping skills for when she/he, must experience stimuli that are irritating or painful.
3. May have unusual sleep patterns	Help families establish bedtime routines, possibly including direct reinforcement for participating in routine.
4. Frequently handles objects in unusual ways	Provide objects that can be handled in learner's preferred manner or provide same/similar input/feedback. Find activities that incorporate learner's movements. Teach functional use of objects.
5. May have some excessive self-stimulatory behaviors	Use sensory diet. Try to find ways for the individual to experience the stimulus (e.g., using a fan, a rocking chair). Teach when and where the behavior is okay. Reduce or increase other stimulation. Use prompts, cues and behavioral intervention to reduce the frequency of the behavior.
6. Changing levels of arousal	Be aware of it – watch for signs of arousal. Assign meaning to the behavior. Develop and teach use of communication system. Use sensory diet.
Movement	
Characteristics	Support Strategies
1. Starting Difficulties may be seen as: frustration, avoidance, noncompliance, not understanding, cognitive challenge, nonverbal, rituals	Physical prompts. Prompt placement. Visual cues and within-stimulus prompts. Systematic instruction. Reasonable accommodations. Routines. Clear (dramatic in some cases) beginning points.
2. Executing Difficulties may be seen as noncompliance, echolalia, rituals, rigidity	Physical prompts. Prompt placement. Visual cues and within-stimulus prompts. Systematic instruction. Reasonable accommodations. Routines.

Movement, continued	
3. Continuing Difficulties may be seen as prompt dependent, noncompliance, short attention span, distractibility	Use of individualized schedules. Frequent change of activities and/or materials. Minimize transitions (time and movement). Physical prompts. Visual cues and within-stimulus prompts. Systematic instruction. Reasonable accommodations. Routines.
4. Stopping Difficulties may be seen as: perseveration, rituals, self-stimulatory, rigidity	Provide similar alternative activities and/or objects. Clear (dramatic at times) end points Teach coping strategies. Physical prompts. Visual cues and within-stimulus prompts. Systematic instruction. Reasonable accommodations. Routines.
5. Combining Difficulties may be seen as: prompt dependent, processing problem	Chaining. Physical prompts. Visual cues and within-stimulus prompts. Systematic instruction. Reasonable accommodations. Routines.
6. Switching Difficulties with transitions	Teach coping skills when switches need to occur. Provide sufficient time to make switches. Physical prompts. Routines.
7. Variable performance	Recognize and accommodate for varied performance.
Communication Skills: Expressive	
Characteristics	Support Strategies
1. Nonverbal (approximately 50%)	Develop and use augmentative communication systems. Encourage learner to "show" you or "take" you.
2. If talking, may not readily use speech to communicate	Acknowledge nonverbal attempts. Present "communicative temptations." Use natural/meaningful contexts and materials. Assess communicative functions.
3. Echolalic (repeats what has been said, immediately or delayed)	Simple language, avoid excessive talking, assess functions, segment utterances by using stress, intonation, and pause, relate echolalia to aspects of the environment, use and teach gestures.
4. Language use give the impression of being learned by rote	Model and reinforce creative language, provide regular and systematic access to competent peer models.
5. Pedantic (rhythmic and/or varied intonation; may also include repetitive questions on topics)	Teach appropriate time and place. Don't take it personally.
6. Repetitive speech	Redirect and refocus. Introduce and expand topic repertoire.

Communication Skills: Expressive, continued

7. Literal	Recognize and respond to way the learner communicates.
8. Abnormal voice modulation	Model, dramatic model, direct instruction.
9. Pronoun reversal	Teach use of names instead.
10. Hyperverbal	Stimulus control (teach time and place), concrete visual cues and feedback.
11. Poor nonverbal communication	Respond to any attempts at communication, use and teach gestures.
12. Difficulty expressing emotions conventionally	Teach coping strategies. Assess meaning of behavior.
13. Limited two-way conversation: turn taking, topic maintenance, lack of referents	Direct instruction. Take responsibility for repair strategies. Communication dictionary. Train peers to accommodate and make repair strategies.

Communication Skills: Receptive

Characteristics	Support Strategies
1. Often appears selectively deaf	Provide physical touch prior to or paired with verbal input.
2. Requires additional time to understand or respond to verbal input alone	Provide time (up to 30 seconds), pair verbal input with visual cues and material.
3. Difficulty responding to and interpreting social gestures/information	Exaggerate cues, draw attention to social information, provide direct social skills instruction.
4. Literal	Limit use of idioms, double-meanings, and colloquialisms.

Social/Emotional

Characteristics	Support Strategies
1. Often appears more interested in objects than people	Be open to and share interest in objects. Show how objects can be shared with or used cooperatively.
2. Imaginative play is limited, lacks creativity, flexibility, and spontaneity	Choose simple schemes at first and encourage participation. Teach schemes then gradually expand.
3. May demonstrate attachment in unique ways	Recognize and respond to the way the learner demonstrates attachment.
4. Apparent lack of shared reference	Provide feedback when it does not occur. Model it, emphasize establishing joint reference if necessary. Provide visual cues (written or other). Instruct directly. Have good models. PRACTICE!
5. Sometimes difficult to console	Move gently, be sensitive, and do the best you can. Some learners may need space, some touch, some quiet, and some may need you to talk/sing.
6. Frequent repetitive, ritualistic play; limited range of interests/activities	Choose simple schemes at first and encourage participation. Teach schemes, then gradually expand.
7. Demonstrate lack of anticipatory response	Establish routines and practice them. Role play may help with some learners. Provide additional cues. Foreshadow.

Social/Emotional, continued

8. Difficulty with change and transitions	Use visual schedules and other visual and motor organizers. Use foreshadowing. Make beginnings and endings of activities and transitions clear. Help the learner organize for and during the transition.
9. May demonstrate self-stimulatory or stereotypic behaviors	Provide objects that can be handled in learner's preferred manner or provide same/similar input/feedback. Find activities that incorporate learner's movements. Teach when and where the behavior is okay. Reduce or increase other stimulation. Use prompts, cues and behavioral intervention to reduce the frequency of the behavior.
10. Experiences entire range of emotions	Work at recognizing and interpreting how the learner expresses various emotions.
11. One-sided social interaction	Work on turn-taking, use of concrete visual cues, dramatic modeling, coaching, provide regular opportunities to be with socially competent peers.
12. Demonstrates difficulty learning and using the rules of social interaction	Make rules as clear and concrete as possible. Provide good models (younger, same-aged, and older). Provide direct instruction in social skills. Use dramatic modeling. Use coaching and foreshadowing. Have the student practice (usually in natural settings). Teach peers about differences. Use and teach peers to use reasonable accommodations.
13. May demonstrate apparent lack of empathy	Coach and teach expressions of empathy. Allow sufficient time for expression.
14. Naive, inappropriate, lack of intuition	Be sensitive to the difficulty. Foreshadow about a situation when possible. Allow sufficient time for person to express intuition.
15. Perspective-taking	Teach cues to which the learner should attend. Teach responses to cues. Teach others to communicate their feelings/needs immediately, directly and concretely.
16. May demonstrate high levels of anxious behaviors	Systematically teach coping and relaxation strategies. Make reasonable accommodations. Use systematic desensitization.
17. Seen as eccentric in school	Teach peers about differences. Encourage and model acceptance and celebration of differences. Frame eccentricities as talents when possible.
18. Awareness of being different from others, usually around puberty, bringing on over-sensitivity to criticism, anxiousness, and/or depression	Create supportive social network. Listen and be supportive. May need counseling, help student contact a therapist.
19. Expresses a desire to make social contact, but no, few or unconventional attempts	Help learner establish a social network. Provide regular and systematic opportunities for interaction with peers. Directly and systematically teach social skills. Act as an interpreter for the learner. Sensitize peers to learner's needs.

Understanding and Supporting Individuals with Autism: What You Can Do

- Use simple language (vocabulary and structure) that is familiar to the individual.
- Allow for processing time needed by the student (this can often be as much as 30 seconds!)
- Use and teach conventional gestures or other communication systems if necessary.
- Do not always require eye contact.
- Use concrete and visual cues whenever possible.
- Always ask, "What could she be saying with this behavior?"
- Be sure activities have clear beginnings and endings.
- Focus on naturally occurring cues to facilitate generalization.
- Identify activities that give the individual opportunities to use her/his interests and highest level skills.
- Avoid "changing the rules" whenever possible.
- Make rules as clear, specific and concrete as possible.
- Establish predictable routines to assist in making daily activities predictable.
- Provide definite visual structure and a visual schedule throughout the day and during each activity.
- Only use prompts that can be easily faded.
- Teach a task, activity, or skill as a whole and in the natural environment.
- To facilitate social play, identify simple, age appropriate activities that are of high interest to peers.
- Choose activities that require simple social interactions.
- Be creative.
- Be flexible.
- Maintain a sense of compassion and a sense of humor.

"We spent weeks preparing our son for his school pictures we practiced, 'Say cheese' and then he would smile. The photographer insisted on saying, 'Say pizza.' Our son had the worst photograph ever. We never did see it, he wouldn't bring it home."

Discrete Trial Training

Discrete trial training is usually associated with the work of O. Ivar Lovaas, a professor of psychology at the University of California, Los Angeles (UCLA), which he began in the 1960's. It is based upon the principles of Applied Behavior Analysis (ABA), which may also be referred to as behavior modification, behavior therapy, or behavioral intervention. Discrete trial training consists of a series of distinct repeated lessons or trials taught one-to-one. Each trial consists of an antecedent, a "directive" or request for the child to perform an action; the behavior, a "response" from the child; and the consequence, a "reaction" from the therapist based upon the response of the child. Positive reinforcers are selected by evaluating the child's preferences. Many children initially respond to tangible or concrete reinforcers such as food items. These concrete rewards are faded as fast as possible and replaced with rewards such as praise, tickles, and hugs. The final part of a discrete trial is a short pause between the consequence and the next instruction called the between-trials interval.

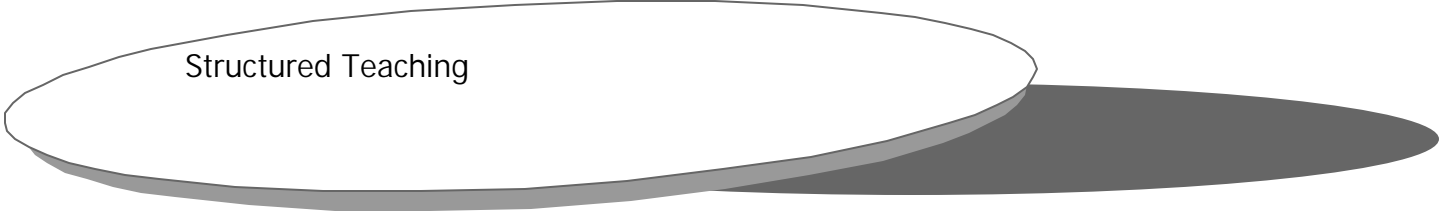
Early intensive behavioral intervention such as the Lovaas program is usually implemented when the child is young, before the age of six. Services are highly intensive, typically 30-40 hours per week, and conducted on a one-to-one basis by a trained therapist in the family's home. Another component of the program is parent training. The child's progress is closely monitored by the collection of data on the performance of each trial. After a skill has been mastered, another skill is introduced, and the mastered skill is placed on a maintenance schedule. A maintenance schedule allows for periodic checking so the child does not regress in mastered skills. Advantages and disadvantages to this intensive approach have been the subject of debate in literature and should be researched carefully before implementation.

Discrete trial training is a technique that can be an important element of a comprehensive educational program for the child with an Autism Spectrum Disorder. In some cases, a much less intensive, informal approach may be implemented by a knowledgeable professional to teach specific skills such as sitting and attending.

Order and simplification are the first steps
toward the mastery of a subject
-- the actual enemy is the unknown.

—Thomas Mann—

German novelist and critic Thomas Mann explored the exceptional individual and his relationship to the environment of family or the environment of the world.



Structured Teaching

The ability to process visual information is generally an area of strength for individuals with autism spectrum disorders. Therefore, seeing something increases their understanding. However, they typically have difficulty scanning, selecting and making sense of the relevant and important details in the environment. In addition, individuals with autism may also have difficulty organizing themselves and planning their movements. Structured teaching is the strategy of organizing space to clarify where activities happen, where things are located, and how to transition from one place to the next. This strategy is based on the TEACCH (Treatment and Education of Autistic and Related Communication Handicapped Children) approach, developed in the early 1970's by Eric Schoppler and Gary Mesibov at the University of North Carolina, Chapel Hill.

There are five basic steps for organizing space:

1. Assess to address unique sensory and spatial problems.
2. Identify the location of activities.
3. Organize and refine the structure of the space.
4. Locate and label materials and supplies.
5. Continue to evaluate and refine.

By structuring space for the individual with autism, relevant details are emphasized and organization is built into the environment. The following are a few examples for providing structure:

- A carpet square for the child to sit on during circle time.
- Tape on the floor to indicate where the child should stand during the Christmas concert.
- Sticky-notes placed in each corner of a table or at the left top and the right bottom corner of a window identifies starting and ending points for cleaning. The individual is taught to work from top to bottom and left to right, removing the notes as each area is finished.
- A specifically designed work area with physical boundaries depending upon the individual's needs.
- Work systems that communicate to the individual what work, how much and when they are finished with the task.
- Visual Schedules (see page 25).

Structured teaching enhances participation, independence and success for the individual with autism.



Visual Schedules

A visual schedule presents the abstract concept of time in a concrete form. The schedule communicates to the person with an autistic spectrum disorder when events/activities will take place and what will come next in a clear, stable, concrete and uncluttered manner. This strategy assists her in predicting and planning. Successful implementation of a visual schedule will often decrease challenging behaviors due to the increase in effective communication.

There are several steps to implementing an effective individual visual schedule. The first step is to assess the individual's level of understanding of different forms of visual communication. If, for example, the individual understands some photos, but generally is at an object level, the schedule may consist of a combination of objects and photos. As the individual demonstrates understanding of the objects, they may be paired with the photo to teach the individual the meaning of the photo. The object may be faded or removed when the individual is able to demonstrate understanding of the photo. Always pair the written word with photos and picture symbols.

The hierarchy of visual communication (least abstract to most abstract):

1. Objects (whole object, miniature object, partial object)
2. Photos
3. Picture Symbols (line drawings such as Mayer-Johnson Picture Communication Symbols)
4. Written Words

Once the type of visual communication has been selected, the schedule can be constructed. Specific information should first be considered such as how the schedule will be used. Where it will be managed? Who will manage it? How will the individual transition between the schedule and the activities/places on the schedule?

The schedule should be easy to create and use, accessible to the individual, durable, inexpensive, flexible, visually clear (free of unnecessary details and decoration), and appropriate to the age and skill level of the individual. Depending upon the skill level of the individual, the schedule may need to be presented in parts rather than the whole day at once.

The individual may need the schedule posted on the wall or may be able to carry the schedule in a binder with her wherever she goes. The schedule may be arranged left to right or top to bottom. The variety of materials that can be used to create a schedule is endless. Individual schedules may look very different and be implemented very differently depending upon the person using it.

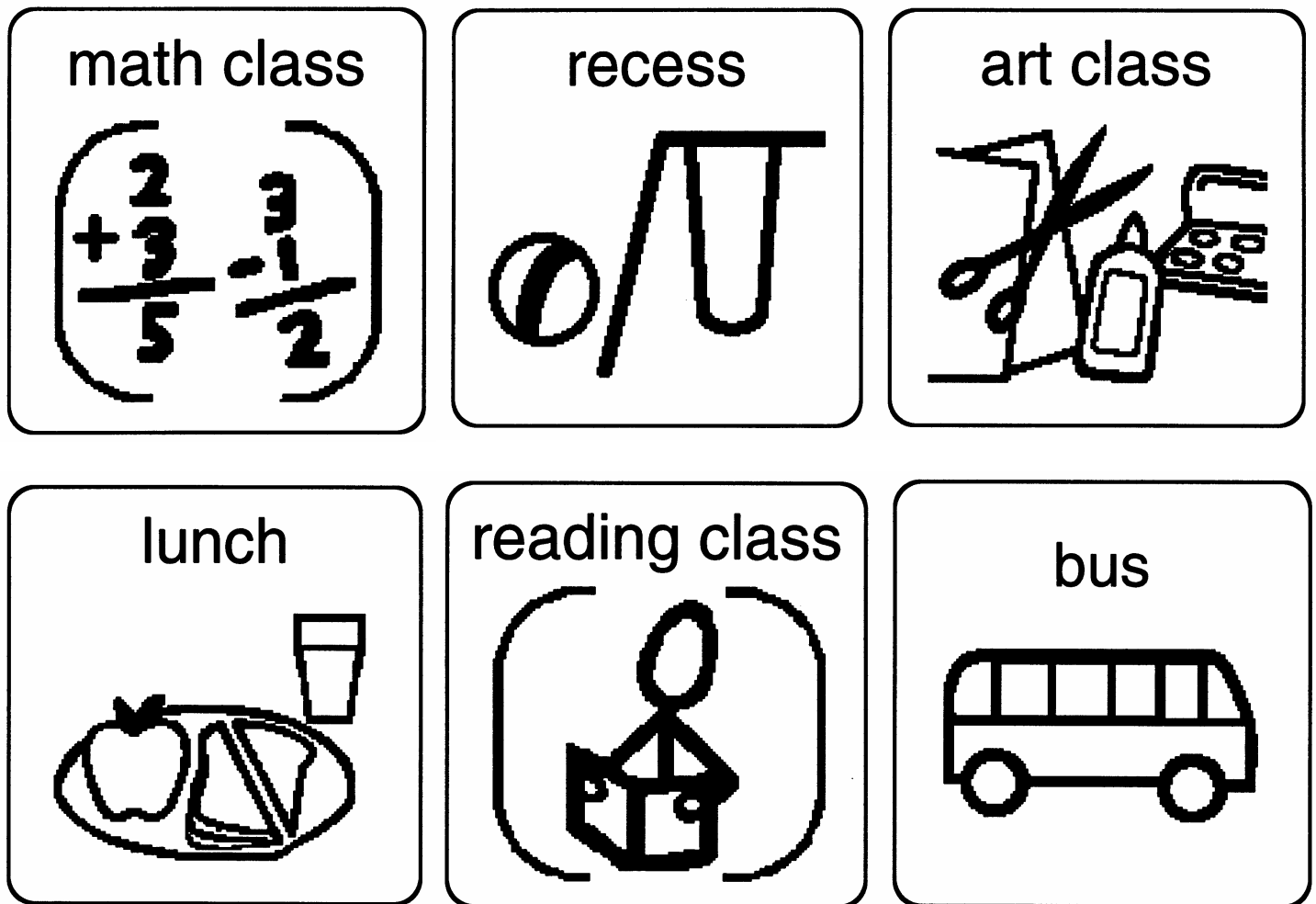
A visual cue is necessary to communicate to the individual when it is time to check the schedule. For example, this may be an arbitrary object such as a red block or a Koosh ball for the individual who needs objects.

Another example is a 3X5 index card with the person's name written on it. This is always paired with the verbal phrase, "check schedule." A person who is able to follow a written schedule may need only the verbal phrase. However, for anyone who is not at this level, a transition object is critical to the successful implementation of the schedule.

The following is an example of the implementation of a schedule with an individual. Joe's schedule is mounted on the wall just inside the classroom door. Joe is given an index card with his name on it that indicates he needs to check his schedule. When he arrives at the schedule, there is a place for him to put the card. The schedule is arranged left to right, and the picture symbols are attached with Velcro. He removes the picture symbol farthest to the left that says gym because it is time for P.E. class. Joe takes the picture symbol with him to class and when he arrives at the gym, there is a place for him to match the symbol. When class is over, the teacher gives him another card with his name on it which takes him back to the schedule and the process begins again.

Mini-schedules are used to supplement the daily schedule. For example, the daily schedule indicates that it is time for reading class. The mini-schedule tells the student that he is going to 1) read a book, 2) listen to the teacher, and 3) do a worksheet. When the student has completed the activities on the mini-schedule, he is prompted to transition back to the daily schedule.

Joe's Schedule (an example of a visual schedule)



Enhancing Language and Communication in
Individuals with Autism

General Strategies	Individuals Who Are Nonverbal	Individuals Who Are Using Minimal Language	Individuals Who Are Verbal
<p>Minimize asking the individual direct questions.</p> <p>Watch what the individual is doing and make appropriate comments. For example, when a child puts a doll in the cradle, say "Baby is going to sleep."</p> <p>Wait for the individual to respond with clear visible anticipation of their response. Look expectantly by establishing eye contact, with lips slightly apart, eyebrows raised and lean your head and body slightly toward the individual.</p> <p>Create communication temptations. Set up situations where the individual will have to talk to get her needs met.</p> <p>Use exaggerated facial features and gestures.</p> <p>Provide a model of appropriate language.</p> <p>Speak in concise, concrete language that is appropriate to the individual's level of language.</p> <p>Try using exaggerated intonation, volume (soft or loud) and rate of speech. This will capture the attention of the individual.</p> <p>Encourage eye contact, but do not force the individual to give eye contact.</p> <p>Respond to any of the individual's verbal and nonverbal attempts to communicate. Responding consistently reinforces the individual's effort to communicate and helps to establish motivation.</p>	<p>Teach joint attention by engaging individuals with toys and motivating activities.</p> <p>Teach imitation skills.</p> <p>Develop turn-taking skills.</p> <p>Teach gestures associated with greetings.</p> <p>Teach pointing skills.</p> <p>Teach functional communication skills to replace unconventional communication such as screaming, aggressive behavior or throwing objects.</p> <p>Create opportunities for the individual to initiate communication (also called communication temptations).</p> <p>Encourage but do not force eye contact.</p> <p>Talk to the individual on his physical level.</p> <p>Teach the child to initiate by first engaging her in a social interactive game such as peek-a-boo, hide-and-see, or a tickle game and then waiting for her to initiate a continuation of the game or to begin the game.</p>	<p>Keep language learning fun!</p> <p>Use gestures and facial expressions.</p> <p>Use gestures to teach pronouns.</p> <p>Fade prompts quickly to reduce the occurrence of prompt dependency.</p> <p>Expand language by adding another word to the individual's one word utterance, and then prompt them to repeat the entire expanded utterance.</p> <p>Comment about what the individual is doing.</p> <p>Speak to the individual in short, concise sentences and phrases. This will maximize comprehension and provide a model for him to imitate.</p> <p>Use exaggerated intonation, volume and rate of speech; however, be careful that the individual does not echo the language inappropriately.</p> <p>Use singing and music.</p>	<p>Teach vocabulary through joint activities and routines.</p> <p>In familiar contexts, substitute higher level vocabulary for a familiar word. Use the word repeatedly while demonstrating the meaning.</p> <p>Use photo albums to discuss past events and calendars to discuss future events.</p> <p>Introduce new topics of conversation.</p> <p>Expand the individual's pragmatic language skills (pp. 36-38).</p> <p>Teach conversational rules such as initiating, terminating a conversation, changing topics, signaling, and repairing communication breakdown.</p> <p>Assist the individual to understand and anticipate the perspectives of others.</p> <p>Expand the individual's language functions, i.e., understanding humor, sarcasm, and idioms, the use of figurative language, problem solving with language, narration, and language to compare and contrast.</p>

Strategies to Address Echolalia: Modeling Functional Communication

Echolalia is the repetition of previously heard words or phrases. There are two basic types of echolalia: immediate and delayed. Immediate echolalia is the repetition of words and phrases that occurs immediately or very soon after the original words. Delayed echolalia is the repetition of words or phrases that are echoed hours, days, or weeks after they were originally heard. Both may serve a variety of functions for communication for the individual. Echolalia occurs in approximately 85% of children with autism who eventually develop speech. In many cases, the individual may learn to use echolalia in a functional way.

REQUESTING If the child reaches for, points to or moves your hand toward a ball, model "ball" or "want the ball" or "Sarah wants the ball" as you give it to her. If he says, "You want a cookie?" you say "David wants a cookie" as you give it to him. He may later spontaneously say, "David wants a cookie," which is still a delayed echo but provides a more appropriate intermediate step between the echoed question as request and the more natural form, "I want a cookie." Avoid direct praise such as "good talking," which is likely to be echoed without comprehension.

CHOOSING For the child who cannot respond to a verbal choice such as "Do you want crackers or an apple?" omit the question for a while. Show the two items and say, "Crackers...apple...Matthew wants...." If he names one and reaches for it, confirm his choice and give it to him, saying something like "Matthew wants an apple." Avoid saying "You want an apple" or "Okay, here's your apple," as he may use your statement as a spontaneous request next time he wants an apple. If he says nothing and just grabs one, name it for him as you give it to him, saying "apple," and pausing to see if he echoes before you release the apple. If he doesn't, just say it again and give it to him. When he's reliably choosing with a fill-in-the-blank format, you can gradually build back up to the natural question form.

GREETING Avoid saying "Hi, Andrew," to a child who repeats back "Hi, Andrew." Just say "Hi" or "Bye" without adding his name. If you need to get his attention first, say "Andrew!" and then "Bye." He may be more likely to respond if you bridge the gap between you and him by bending down and putting his hand on your shoulder to direct his attention. Encourage others to use words and phrases that will be acceptable if echoed, such as "See you later" rather than farewells like "Come again soon, Honey," that are inappropriate if echoed by the person who is leaving.

REJECTING/PROHIBITING If the child pushes away food or screams at having her face washed, help her push the food away, or back off and say, "No cake! Don't want cake!" or "Stop!" or "No washing face!" Sometimes you can accept the refusal, but in other cases, you will have to overrule the child. If so, pause, say something empathetic like "Don't like face washing," and then go on, "Becca's face is dirty. Mommy has to wash it." If someone takes her toy, help her pull it back and model "Stop!" or "No!" or "Don't take it!"

"Our child started to really talk when he was 4½ to 5 years old. Of course, one of the first phrases he said was 'Shut up!' We would then tell him, 'No, no, be quiet.' He would then say, 'Shut up, no, no, be quiet.' He still does this."

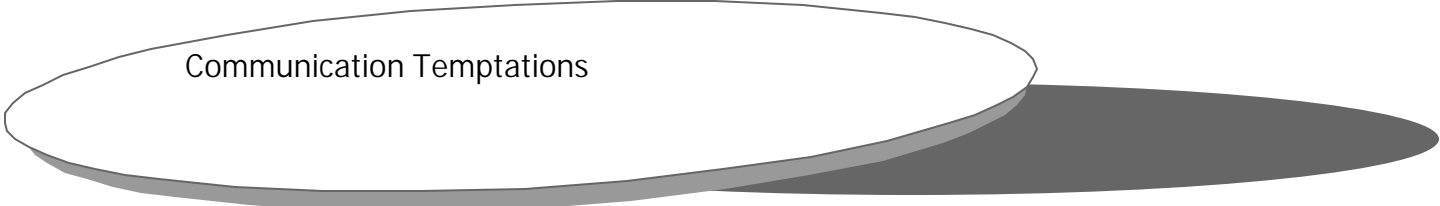
"One day I was very angry because I had just dented our brand new van. My pre-adolescent son said, 'You need GX27, it removes unsightly rust and scratches.' He used the same intonation as the commercial and said it as a way to make me feel better."

DIRECTING If he hands you objects to fix or open, puts your hand on an object, or just screams in frustration, you can say “Please help” or “Need help” or “Open it,” as if directing yourself. Don’t say it with a questioning intonation like “Need help?” or else the child will probably say it that way. Depending on the child’s readiness and state of attention at the moment, you can wait for him to echo or just proceed to the needed action. Be careful how you respond when the child does repeat your model. If you say “OK” several different times, he may begin to say “Please help OK.” To avoid creating an inappropriate pattern, either do the requested action without comment or vary your verbal response.

COMMENTING Modeling comments is useful not only for building vocabulary and concepts, but also as an early social and pre-conversational activity. It provides many opportunities to use echoing as a teaching tool and supplies the child with appropriate language to practice as he does the same actions during solitary play. When doing a puzzle, you could say, “Here’s the horse...going to put it in...uh-oh, doesn’t fit...there, it’s in!” Time your words to match the child’s independent or assisted action. If you’re looking at a book together, start with wordbooks because noun vocabulary is often a strength and understanding of stories is apt to be weak. To encourage visual focusing, use the child’s finger to point to pictures as you model comments depending on the child’s level of comprehension, like “Shoes...hat,” “Here’s the brown puppy,” “The girl is painting a picture,” “Flowers on the table,” “The baby is crying, he’s sad.” If he does not spontaneously name some, put his finger on a picture so he knows—and pause. The established pattern of point and name, and your silence, will often elicit a spontaneous label from the child.

SOME IMPORTANT POINTS TO REMEMBER

- Model language structures that are only slightly longer and more complex than those you’ve heard the child use meaningfully.
- Say things that match what’s happening from the child’s point of view.
- Avoid questions and verbal instructions.
- Use people’s names if pronouns are confusing.
- Use words and intonation that will be appropriate and accurate if echoed.
- Respond to the child’s speech with words and actions that confirm your understanding of the message, not with praise, which may be echoed.
- Relax, enjoy yourself, join the child’s activity and follow his lead in play while gradually encouraging more varied and appropriate use of toys.
- Remember that most children who echo are actively trying to communicate despite their confusion about communicative functions, conversational roles and the meanings of concepts that vary as speakers and situations change. The procedures suggested here tap their strong memories, need for predictable patterns and echoic tendencies to begin to establish a basis of meaningful, functional communication.



Communication Temptations

1. Eat a desired food item in front of the child without offering any to him or her.
2. Activate a wind-up toy, let it deactivate, and hand it to the child.
3. Give the child four blocks to drop in a box, one at a time (or use some other action the child will repeat, such as stacking the blocks or dropping the blocks on the floor); then immediately give the child a small animal figure to drop into the box.
4. Open a jar of bubbles, blow bubbles, and then close the jar tightly and give the closed jar to the child.
5. Initiate a familiar social game with the child until the child expresses pleasure, then stop the game and wait.
6. Blow up a balloon and slowly deflate it; then hand the deflated balloon to the child or hold the deflated balloon up to your mouth and wait.
7. Offer the child a food item or toy that he or she dislikes.
8. Place a desired food item in a clear container that the child cannot open; then put the container in front of the child and wait.
9. Roll a ball to the child; after the child returns the ball three times, immediately roll a different toy to the child.
10. Engage the child in putting together a puzzle. After the child has put in three pieces, offer the child a piece that does not fit.
11. Engage the child in an activity with a substance that can be easily spilled (or dropped, broken, torn); suddenly spill some of the substance on the table or floor in front of the child and wait.
12. Put an object that makes noise in an opaque container and shake; hold up the container and wait.
13. Give the child materials for an activity of interest that necessitates the use of an instrument for completion (e.g. a piece of paper to draw on or cut; a bowl of pudding or soup); hold the instrument out of the child's reach and wait.
14. Engage the child in an activity of interest that necessitates the use of an instrument for completion (e.g., pen, crayon, scissors, stapler, wand for bubbles, spoon); have a third person come over and take the instrument, go sit on the distant side of the room while holding the instrument within the child's sight, and wait.
15. Wave and say "bye" to an object and remove it from the play area. Repeat this for a second and third situation, then do nothing when removing an object from a fourth situation.
16. Hide a stuffed animal under the table, knock, and then bring out the animal. Have the animal greet the child the first time. Repeat this for a second and third time, then do nothing when bringing out the animal for the fourth time.

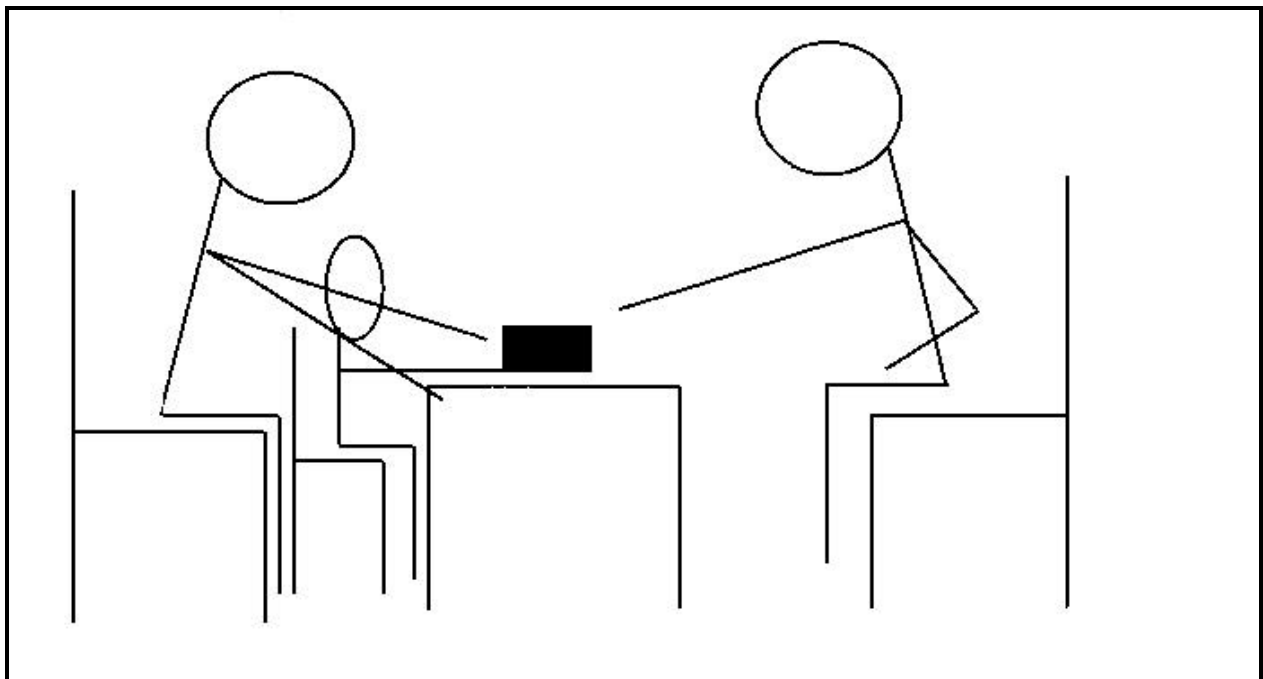
Picture Exchange Communication System

The Picture Exchange Communication System (PECS) was developed in 1987 by Lori Frost MS, CCC/SLP and Dr. Andrew Bondy. PECS is primarily implemented for individuals who are nonverbal or use speech with limited effectiveness to assist them in acquiring functional communication skills. PECS has received international recognition. It does not require complex or expensive materials and can easily be implemented by educators and family members.

The system emphasizes the importance of an individual with a communication deficit learning to approach a communicative partner. A variety of prompting, shaping, and fading techniques are incorporated to gradually improve and modify an individual's use of the system. PECS begins with teaching the person to exchange a picture of a desired item or activity with another person, a communication partner, who immediately honors the request. Verbal prompts are not used, thus building immediate initiation and avoiding prompt dependency. Once this step is mastered, the individual advances to the next phases of the system, which teach discrimination of symbols and then puts them together in simple "sentences" such as "I want _____." The final of the six phases teaches the individual to respond to a question and comment in response to a question.

The system can be successfully implemented with children as young as 2 years. Some parents worry that the introduction of a communication system other than speech will interfere with the child's development of speech. However, research demonstrates that the opposite is true. The implementation of PECS enhances the child's language development. In summary, there are many advantages to PECS including 1) the communication exchange is clearly understood, 2) the individual initiates the interaction, therefore eliminating prompt dependency, and 3) the communication is meaningful and highly motivating.

For more information: www.pecs.com



The following, written by Cheryl S. Merritt, is reprinted with permission from the Northern Virginia Chapter of the Autism Society of America.

A Behavior Management Program

A. Accept the child.

The first step in developing a behavior management program for a child with autism is to view the child as wonderful and capable so he can live up to our expectations. The power of expectation is tremendous. If we view a child's behavior as bizarre simply because he has the label of autism we will not be able to see the communicative intent of the behavior. We all have behaviors in private that we suppress when someone walks into the room. We often forget that children with autism do not suppress behaviors to conform to social expectations and therefore, we view them as bizarre.

P. Patience.

Children with autism often have a great deal done for them or to them. If we are to convey to the child our belief in his capabilities, we must allow him the time to do things for himself. Our society tends to promote the expectation of a fast response. Children with autism may have a 15-20 second delay (or longer) in response time. That is a very long delay and requires lots of patience.

P. Perspectives.

It is important to view behavior from a variety of perspectives, i.e., medical, sensory, communicative, etc., and perhaps try various interventions. Any change in behavior (positive or negative) should first be viewed from a medical perspective. Some children display decreased hyperactivity and greater attentiveness during illness. Sometimes a behavior is an attempt to decrease pain. Sometimes we get caught in the trap of viewing all behavior from one perspective only. For example, my son was observed running his fingers along the brick wall in his classroom. Like many children with autism, he has a history of sensory difficulties. This behavior was initially viewed as his need for sensory input. Further investigation revealed the true meaning of the brick wall. My son has a computer game which contains walls which will sometimes open to reveal hidden rooms. Once he was told there were no hidden rooms in the classroom, the "problem" was alleviated.

R. Rules.

We all make sense of the world by developing rules to live by. A child with autism develops his own unique rules and lacks the communicative ability to tell you what those rules are. For example, a child with autism was sitting at the table having a snack. He suddenly jumped up from his chair and started screaming. Because the behavior was so sudden and disconcerting, attention was focused on the child. A review of the environment revealed that the "snack" included crackers in star shape. This child had developed a rule that crackers are round or square and this star shape broke his rule. It is a common occurrence for a child with autism to display unwanted behaviors in an attempt to convey that someone has broken a rule or that something is different.

E. Everything has to be taught and everything has to be specific when working with a child with autism.

In teaching my son to buy ice cream in a store, we broke it down into steps and daily repeated the routine. One day we went into the store. David strode confidently to the counter and said, "David wants vanilla." There was no clerk in sight – he was in the back of the store on the telephone. We had failed to teach David

that the clerk needed to be present. What is obvious to most people is not to a child with autism. This includes communication. For example, I was taking some things out of the refrigerator. My son David was nearby and I asked him to “close the door.” David left the room and closed the back door. Even though I was standing by an open refrigerator door, David did not understand. A child with autism does not attend to subtle environmental clues.

C. Choices.

Making choices allows one to gain a sense of control over the environment. It is a step toward independence. Allow children with autism the opportunity to make choices whenever possible. But be sure you are offering a choice. We sometimes use language to be polite that may be misinterpreted by a child with autism. “Would you like to go out to play now?” or “Are you ready for lunch?” implies a choice. Also remember that some children will answer “yes” to anything you say but not really want what you offer. Sometimes problems are created when choices are not allowed. One day I received a call about a “problem behavior” for a young teenager with autism. It seems the teenager had taken to throwing his lunch in the trash can rather than eating it. Further investigation revealed that the teacher was telling the teenager to eat his sandwich before he ate his dessert. This battle resulted in the lunch ending in the trash can. A discussion with the mother revealed that the teenager “normally” ate his dessert before he ate his sandwich but always ate well and she wasn’t concerned. Once the teacher understood this, he agreed that the teenager should be allowed the choice.

I. Inform.

Tell a child with autism what is going to happen and when. This is particularly important when there is going to be a change in the routine or the environment. The way the information is conveyed may vary depending on the child’s needs. Sometimes pictures or lists are used. Some children can use clocks and calendars.

A. Accommodations.

Although we all require accommodations for our needs, we often do not give the same respect to a child with a disability. When most children start preschool they take a favorite toy and enjoy a comforting hug from an adult. My son does not take his comfort in the same manner so he took a box and blanket to school. Although he started out in the box with a blanket over his head, he quickly adjusted and in a few weeks the accommodation was removed. Accommodations may be a trampoline in the classroom and home, earphones while shopping, or standing at the end of a line for a child sensitive to touch.

T. Teach Social Rules and Expectations.

A child with autism has more than a language disability. He has a social disability. The child has to be taught not only how to socially interact but when. For example, we can teach a child to hug and kiss but we also need to teach when and with whom this is appropriate. Most children learn many things through observation but children with autism have to be taught specific social expectations. This may include using low voices in certain environments, i.e., library, movie theater, or refraining from socially inappropriate behaviors in public.

E. Exercise.

A daily, vigorous exercise program is essential to any behavior program. There is increasing evidence that vigorous exercise is helpful to children with autism by reducing inappropriate behaviors and increasing their ability to concentrate.

Functional Assessment of Challenging Behaviors

Challenging or problem behaviors result when an individual is not able to communicate his needs or desires effectively. Therefore, the challenging behavior serves a purpose for communicating, or a communicative function. Generally, there are two categories of functions that a challenging behavior serves: 1) to obtain something, or 2) to avoid something. Challenging behaviors often interfere with an individual's learning, social acceptance and opportunities for inclusion in their community. Extreme challenging behaviors can be dangerous or even life threatening to an individual and others.

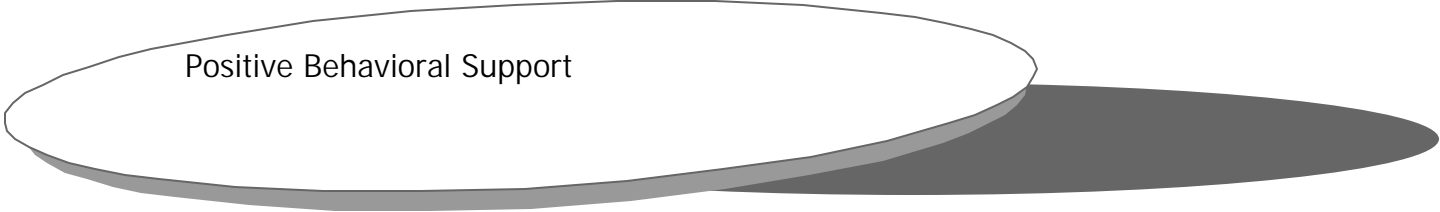
Functional assessment is a process for examining the relationship between a person's challenging behavior and the environment. One goal of a functional assessment is to identify antecedents or environmental situations that will predict the occurrence and nonoccurrence of the challenging behavior. Another goal is to gain information that will improve the effectiveness and efficiency of intervention strategies. Finally, a functional assessment should identify the functions the behaviors appear to serve for the person allowing us to teach an alternative replacement behavior.

A functional assessment can be conducted in a variety of ways. There are three general methods for collecting functional assessment information. The first is interviews and rating scales that provide information by talking with the individual and/or to the people who know the individual best. The second method is direct observation of the individual in her normal daily environments. Direct observation confirms information gathered in the interview. One strategy for collecting information is the **A-B-C** format. The observer records the **a**ntecedent to the behavior (what happened immediately before the behavior), description of the **b**ehavior, and the **c**onsequence of the behavior (what happened immediately after). By analyzing the information obtained through these two methods, a hypothesis can be developed. The hypothesis is a best guess as to the function that the behavior serves for the individual based on actual data. Interventions and behavior plans should be written based on the function of the behavior. These interventions typically involve teaching an alternative replacement behavior that serves the same purpose as the challenging behavior and usually is communication based.

"Our son has a very identifiable chain of behaviors that occur when he is getting frustrated or angry. I have written these behaviors down for all the people who work with him so that they can help interfere with the chain to avoid his self-injurious behaviors. The problem is, sometimes they occur so fast that the whole chain is done in a matter of seconds."

The third method of functional assessment is functional analysis. Functional analysis is the actual manipulation of variables that reduce, eliminate or provoke the behavior to verify that the hypothesis is correct. A functional analysis is the most precise and controlled method for conducting a functional assessment. However, functional analyses are typically conducted in a controlled clinic environment and are difficult to conduct in a classroom, although this has been done.

Functional assessment has been established as a professional standard. In 1988, the Association for Behavior Analysis published "A Right to Effective Treatment," (Van Houten, et al.) which includes the right of all individuals who receive behavioral intervention to a professionally competent functional assessment. In 1989, the National Institutes of Health strongly endorsed the use of functional assessment procedures. Several states have since instituted laws or state regulations that require a functional assessment prior to the implementation of significant behavioral interventions. The 1997 revisions to the Individuals with Disabilities Education Act (IDEA) stipulates that a functional assessment be completed and a behavioral intervention plan be implemented for a student prior to a suspension or making an alternative placement.

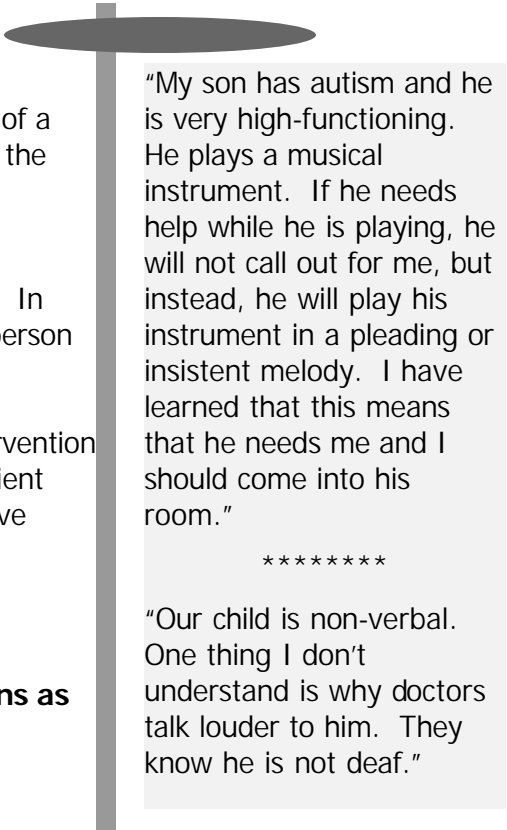


Positive Behavioral Support

Positive Behavioral Support (PBS) is an approach that has evolved from the traditional behavioral management approaches. Rather than attempting to eliminate the challenging behavior, the PBS process results in a multi-component behavioral plan that seeks first to understand and identify the communicative function of the behavior. The plan incorporates methods for changing the behavior that are respectful of the person's dignity, enhance his strengths and capabilities, and expand his opportunities and quality of life. The process is team-driven and person-centered. Therefore, any outcomes are meaningful from the perspective of the individual's likes and dislikes, strengths and weaknesses. A person's team should consist of family members, professionals, and anyone else who can assist in providing support such as community members, employers, or even peers.

There are five phases necessary to develop a comprehensive positive behavioral support plan:

- **Do functional assessment of the problem behavior.** The goal of a functional assessment is to understand the person and the nature of the challenging behavior in the context of his environment. (See also "Functional Assessment of Challenging Behavior," previous page.)
- **Develop hypothesis statements based upon the information.** In other words, the hypothesis is the team's best guess as to why the person engages in the challenging behavior.
- **Develop intervention strategies.** Ultimately the goal of the intervention strategies is to make the challenging behavior ineffective and inefficient and to teach the person new skills that serve the same communicative function as the behavior.
- **Implement the plan and keep data.**
- **Evaluate the effectiveness of the plan and make modifications as needed.**



"My son has autism and he is very high-functioning. He plays a musical instrument. If he needs help while he is playing, he will not call out for me, but instead, he will play his instrument in a pleading or insistent melody. I have learned that this means that he needs me and I should come into his room."

"Our child is non-verbal. One thing I don't understand is why doctors talk louder to him. They know he is not deaf."

General Recommendations for Promoting and Enhancing Socialization

- Structure and facilitate opportunities for social interaction in natural environments with typically developing peers that are consistent and predictable.
- Guide the child's play and provide support as needed by modeling and directing play or giving verbal prompts.
- Teach the social rules of play: how to start, maintain and end; how to be flexible and cooperative; how to share; and how to maintain solitude without offending others.
- Use other children as cues to indicate what to do.
- Encourage participation in social interactive games such as hide and seek, peek-a-boo, and pat-a-cake.
- Play areas should be structured to promote interaction. Avoid large open spaces. The space should be clearly defined by boundaries. Toys and materials should be visible and easily accessible.
- Create a social support group that consists of the individual's peers.
- Provide detailed scripts for the individual to follow.
- Teach the individual strategies to help him express and understand emotion.
- Teach the individual to "read" social situations by using techniques such as Social Stories, Social Review, and Social Assistance Activities.
- Facilitate a social skills group to teach important appropriate social behaviors through role playing and modeling.
- Seek out clubs or groups for the individual to participate in that center on her interests.
- Teach individual how to make and maintain friendships.

"We have a daughter whose main job is to make sure I don't dress our son with autism like 'a geek' (her words). Our son doesn't care how he looks, and I don't pay attention to the styles. Her advice is invaluable to his social position at school!"

Social Stories

Social stories are written by parents or professionals to describe social situations that are difficult and/or confusing for an individual with autism. They assist an individual with identifying relevant social cues, understanding, and responding appropriately to specific social situations. When writing a social story, the person's interests, learning styles, and abilities should be considered.

Carol Gray has developed a formula for writing effective social stories. She has identified three types of sentences contained in a basic social story. *Descriptive* sentences define where a situation occurs, who is involved, what they are doing and why. *Perspective* sentences describe the reactions and feelings of others in a given situation. *Directive* sentences are positively stated, individualized statements describing desired responses. They often begin with "I can try...", "I will try...", or "I will work on..." Directive sentences that are inflexible or that require absolute compliance should be avoided. Her formula for an effective social story is two to five descriptive and/or perspective sentences for every directive sentence.

Social stories are usually written in the first person and the present tense as though the person is describing the situation as it occurs. It can be written in the future tense to describe an upcoming event or situation. Words like "always" and "never" are avoided since they may lead to inaccurate information. The desired responses must be stated very carefully and specifically. Ambiguous or abstract terms must be functionally defined. For example, instead of "I will talk quietly," write "I will talk quietly. I will talk so that only the person sitting next to me can hear what I say." Additionally, it is important to write in reality and mention variations that may occur in the routine. Illustrations accompanying the story can also aid the person's comprehension. However, illustrations may define a situation too narrowly or be distracting.

There are four steps to writing a social story:

- 1) Target a situation — identify and describe the situation
- 2) Gather information
- 3) Share observations
- 4) Support new responses and/or revise the story based on the person's responses

While social stories are a generic strategy, following Carol Gray's guidelines can increase the quality and effectiveness of the story.

Example of a Social Story

My name is Joe. Mrs. Smith is one of my teachers. Sometimes Mrs. Smith asks me a question. Sometimes she asks a question to the whole class. I will know she wants me to answer her question out loud when she first says my name and then asks the question. If she does not say my name, I need to raise my hand and wait for Mrs. Smith to ask for my answer. I will try to raise my hand to give answers in class.

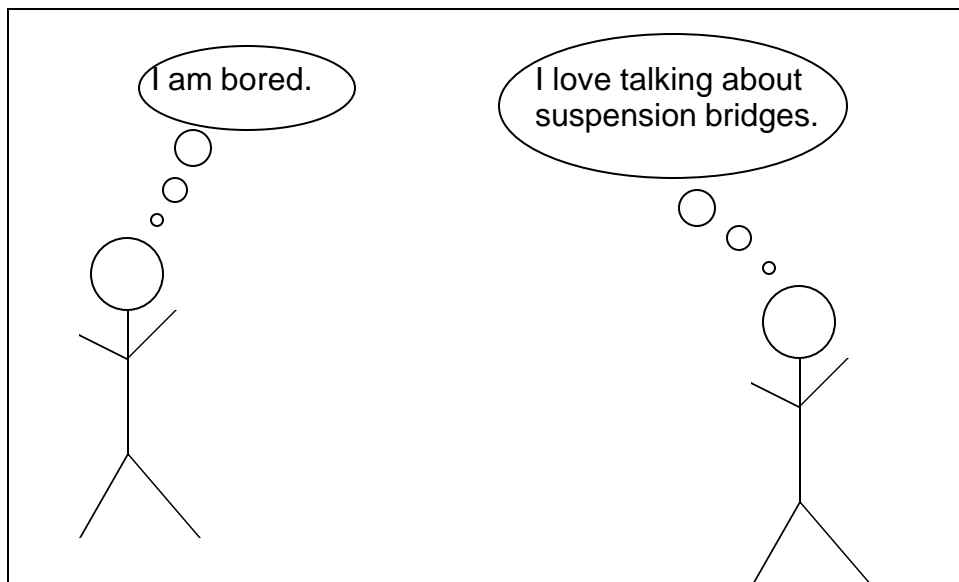
Comic Strip Conversations

Developed by Carol Gray, a Comic Strip Conversation is a conversation between two or more people that incorporates the use of simple drawings. They provide a visual representation of a conversation in order to enhance the person's understanding and comprehension. While the conversation takes place or a situation is recounted, illustration is added. The illustration can include symbols, drawings and written words. The joint attention of the individuals involved with the conversation is focused on the drawing surface. While this strategy is helpful in sharing information with the person with autism, it is also helpful in obtaining their perspective, and assisting them in communicating their own feelings and ideas.

A specific structure is followed to organize a social exchange, and build in predictability. Comic Strip Conversations are not intended to be used for every conversation. They are most helpful when there is a need to convey important information, when there is a misunderstanding, or to solve a problem. A Comic Strip Conversation may also be used to teach a social skill. The illustrations usually consist of stick figures and bubbles where the figures words and thoughts are written. When a person gains experience with using Comic Strip Conversations, colors can be associated to express feelings such as green for happy, blue for sad, or black for anger.

The conversation usually begins with small talk, just as any conversation usually does. The person with autism takes the lead in a Comic Strip Conversation, and the parent, professional, or peer serves as a guide to the conversation. The interaction is illustrated as it progresses. The conversation then moves from small talk to talking about the situation. Information such as where and when the situation takes place, and who is there, what is done and said is covered. Next, Comic Strip Conversations focus on what people in the situation may be thinking. Often the person with autism may have difficulty interpreting what someone else may be thinking, or they may interpret something that was said literally. This presents an opportunity to assist them in understanding the situation, or another person's perspective. Finally, the conversation is summarized, and, if necessary, concluded with the identification of new solutions.

Example of a Comic Strip Conversation



Sensory Integration

Sensory integration is the process by which the nervous system receives, organizes, files, and integrates sensory information in order to make an appropriate response to a particular situation. The development of the sensory integrative process begins in utero and continues after birth through ordinary childhood activities. There are three major sensory systems: vestibular (response to movement and gravity), tactile (touch), and proprioceptive (muscle and joint input). Sensory integration provides a foundation for more complex learning and behavior. Children with autism commonly experience sensory integrative dysfunction, such as being over- or under-responsive to touch, movement, sights, smells, and sounds. Some self-stimulation behaviors, such as spinning, rocking, and hand flapping that are common for children with autism, may also be the result of sensory integrative dysfunction.

Dr. A. Jean Ayres, an occupational therapist, developed the theory of sensory integration to explain a variety of neurological disorders in children. Literature from the fields of neuropsychology, neurology, physiology, child development and psychology has contributed to the development of the theory and intervention strategies. Sensory integration is just a theory, and there is limited research that supports it. However, there is a vast amount of anecdotal support that sensory integration therapy does work for some children.

If a child is suspected of having difficulty processing sensory information correctly, a qualified occupational or physical therapist can conduct an evaluation. An evaluation usually consists of both standardized testing and structured observations of responses to sensory stimulation, posture, balance, coordination, and eye movements. If necessary, the therapist will make recommendations for appropriate therapy intervention based upon the test results. Sensory integration therapy does not usually focus on the development of specific skills. Rather, therapy involves a variety of activities that provide sensory stimulation to aid in the maturation of the sensory systems to make appropriate automatic responses.





Recommendations for Supporting Individuals with High Functioning Autism

1. People with autism have problems with abstract and conceptual thinking. When abstract concepts must be used, use visual cues such as drawings or written words to assist the individual to understand the concept. Be as concrete as possible with interactions. Avoid asking vague questions.
2. Many high functioning people with autism use and interpret speech literally. It is helpful to avoid using idioms, words with double meanings, and sarcasm unless you know the person understands the meanings in the context of your conversation, or you take the time to explain them.
3. Some individuals may have difficulty reading facial expressions and interpreting body language.
4. Although the person with autism may not have a hearing problem and may appear to be attending to you, he may have difficulty auditorily processing the information. Avoid verbal overload. Be clear and use shorter sentences if you perceive that the person does not fully understand you. Sometimes it is most helpful to write down what you need to tell him.
5. Some individuals have difficulty processing sensory stimulus. Normal levels of auditory and visual stimulus can be perceived by individuals with autism as too little or too much, and they may have difficulty expressing what is bothering them. Simple changes to the environment can make the difference.
6. Uneven skill development is characteristic of autism. When assessing a person with autism do not make assumptions. While she may be a “whiz” in one or several areas, she may be unable to perform daily living skills.
7. Individuals with autism must be taught appropriate social skills. Strategies that improve their understanding of social situations and give them information regarding appropriate social responses are most effective. It is also necessary to provide structured opportunities to interact with peers and develop social skills. Joining groups that are related to the strengths and interests of the person gives them opportunities to interact around a shared interest.
8. Individuals with autism usually have difficulty with organization. Daily schedules, written directions and checklists can be extremely helpful.
9. Many people with high-functioning autism have poor handwriting. Often it is helpful for them to learn how to use the computer.
10. Outbursts and impulsive behavior can often appear to be manipulative or intentional rudeness. Usually the behavior occurs because the individual was unprepared, confused, disoriented or frightened by a situation. Preparing the individual for new situations or changes that will be taking place can help to eliminate this problem.

These are just a few of the many ways to assist persons with high-functioning autism with the many challenges they experience.

Pharmacological Interventions

Autism as a spectrum disorder is not treatable with any one method of treatment, including medication. Different medications, while effective for some, are not effective for all individuals. When considering pharmacological interventions, consultation with a medical professional who has experience in treating autism is critical. Medication should be prescribed only when the prescribing physician can closely monitor it. Teachers, clinicians, and parents need to be informed of the potential therapeutic effects and side effects. It is also important to note that best practice promotes the use of medication in conjunction with appropriate behavioral and educational programming.

The following chart was adapted from the article "An Overview of Medications Commonly Used to Treat Behavioral Disorders Associated with Autism, Tourette Syndrome, and Pervasive Developmental Disorders" by Dwight P. Sweeney, Steven R. Forness, and Jennifer G. Levitt. The article was published in Focus on Autism and Other Developmental Disabilities, Volume 13, Number 3, Fall 1998. For a complete list of references used in compiling this chart, please see the article cited above. (*indicates information added to the chart by handbook authors)

Medication	Indications for Autism	Possible Benefits	Negative Side Effects
Stimulants Ritalin (SR) Dexedrine Cylert Biphphetamine Dexedrine spansule *Adderall *Focalin *Concerta	Inattention and hyperactivity	Increases attention span Decreases distractibility and motor restlessness Decreases impulsivity Takes effect within an hour May be given daily or used only on school days	May decrease appetite May cause insomnia Can heighten emotional sensitivity May lead to headaches, dizziness, abdominal discomfort, and skin rash Growth problems may occur at high dosages Not approved for children less than 6 years of age Excessive dosage may cause decreased attention and lowered academic performance May cause or aggravate tics May increase lip licking/
Antidepressants Tofranil Norpramin Wellbutrin Anafranil Prozac *Effexor *Remeron *Zoloft *Paxil *Celexa	Depression Inattention and hyperactivity Perseveration *Obsessive compulsive behavior	Diminishes impulsive behaviors Decreases hyperactivity Treats depression Helps with mood disturbance Improves compulsive and perseverative behavior Decreases bed-wetting	Can cause irregular heartbeat May aggravate a seizure condition Cannot be used if there is a risk of psychosis Needs to be taken daily May cause drowsiness, nausea, and constipation May cause tremor

Medication	Indications for Autism	Possible Benefits	Negative Side Effects
Antihypertensive Catapres (clonidine) *Tenex (guanfacine)	Aggression	May improve ADHD and aggressive behavior May also treat compulsive behaviors	May lower blood pressure May cause drowsiness Patch may be removed by young children or persons with developmental disabilities Requires monitoring of blood pressure, pulse and EKG Rebound hypertension if abrupt withdrawal Should generally not be used
Anticonvulsants Tegretol Depakene *Topomax *Neurontin	Severe aggression *Mood swings (bipolar disorder)	May be used in hyperactive patients with seizure disorder May be effective when aggression is associated with hyperactivity or	Requires monitoring of blood levels and bone marrow and liver functions
Antipsychotics (major tranquilizers) Haldol Orap *Risperdal *Zyprexa (Ziprasidone)	Decrease aggression or hyperactivity	Reserved for serious disorders characterized by excessive aggressiveness/psychosis May have antiaggressive effects	Sleepiness Involuntary body movements or stiffness May decrease mental acuity Monitor EKG for Orap
Anxiolytics (minor tranquilizers) Librium Valium Xanax Buspar Ativan	Anxiety (Librium, Valium, Xanax, Ativan, and Klonopin) Aggression (Buspar)	Decreases anxiety Decreases agitation May decrease aggression associated with some organic disorders (Buspar) May be helpful in managing highly active children	Sedation Risk of psychological dependence Limited use in treating ADHD (Klonopin) Drowsiness, poor balance Behavioral disinhibition
Antihistamines Benadryl Atarax	Anxiety	May decrease anxiety May improve sleep Acts as an antihistamine	Dry mouth Restlessness
Narcotic antagonist Trexan Narcan	Hyperactivity Self-injurious behavior	May decrease self-injury in children with autism May decrease hyperactivity in children with autism	Requires regular liver function screening Lethargy Irritability
Beta blocker Inderal	Aggression	May reduce aggressive acts secondary to brain damage	May slow heart rate and lower blood pressure Drowsiness

Evaluating Treatment Approaches and Non-traditional Therapies

Treatment approaches and nontraditional therapies identified for Autism Spectrum Disorders are debated by researchers in literature and by parents and professionals on a regular basis. Many exist that promise cures or at the very least dramatic improvement. While some of these strategies are effective for some, there is no one approach that is effective for all people with autism spectrum disorders. Most importantly, at this time autism cannot be cured. However, early intervention and appropriate educational programming can minimize the effects of autism on a person's life by teaching them skills to enhance their ability to communicate and socialize.

Parents are strongly encouraged to investigate thoroughly any treatment approaches or nontraditional therapies prior to implementing them with their child. The following is a list of questions that should be considered:

1. What is the treatment/therapy?
 - a. Is there written information, a program description, detailed brochure, etc?
 - b. Exactly what is involved for the family and the child?
 - c. What is the length of treatment?
 - d. What is the frequency of sessions?
 - e. How much parent time is required?
 - f. What are the financial costs?
 - g. Is there training required for parents, care providers, teachers and others?
 - h. Is there follow up and/or support after treatment termination?
2. Is there reliable evidence of the effectiveness of the technique/intervention?
 - a. Does the treatment promise a cure?
 - b. Does the treatment claim to be effective and appropriate for everyone?
 - c. Does research support these claims? Is there quality empirical evidence?
 - d. Do the claims made correspond to what is known about autism, language, and neurological functioning?
3. What is the rationale, philosophy, or underlying purpose of the treatment program?
 - a. Does the treatment address important aspects of the autistic disorder (e.g., social interaction, cognitive issues, and language)?
 - b. How is the philosophy tied to the specific treatment techniques?
 - c. How were the philosophy and treatment methods developed (e.g., scientific research, or clinical experience)?
4. How is the determination made that the treatment/therapy is warranted and appropriate?
5. Does the treatment focus on one particular aspect or is it a general comprehensive approach?
 - a. Does it allow the integration of other techniques?
 - b. Are the components of the treatment program compatible?
 - c. Are the treatment goals individualized for each person and their families?

"There is so much information out there. It is so important to talk to other families who have children with autism. It is also important to have a doctor who supports your choices and is not judgmental."

6. What are the credentials of the program director and the staff?
 - a. What are the background, training, and credentials of the program staff?
 - b. What are the staff's understanding, training, and experience in autism?
 - c. How much experience have they had in providing the treatment?
 - d. Are they open to questions and input from family members and other professionals involved with the child?

7. Is there evidence that supports the effectiveness of the treatment/therapy?
 - a. Is there independent confirmation of the effectiveness?
 - b. What are the possible negative effects or side effects of the treatment?
 - c. What impact might the treatment have on the family's lifestyle (e.g., time, finances, etc.)?

8. Does the treatment/therapy promise a cure?

9. Is there excessive hype surrounding the treatment?

There are many people who claim to have a cure for autism. However, the majority of treatments and claims of cures that exist have yet to be scientifically documented. Treatment decisions are best made following a comprehensive assessment, and after thorough investigation of the various treatment options being considered. Education and a thorough investigation will help parents arrive at the conclusion of what is the best treatment option for their child and family.



General Programming Ideas



Early Intervention in Autism

Early intervention describes the provision of services to young children with disabilities or children who exhibit delays in development. The goal of the service is to lessen the effects of the child's disability. Research has documented that early intervention is critical. Effective early intervention often results in the increase of developmental gains, long-term skills and adaptation for the child with autism. In a review of eight early intervention programs, Dawson and Osterling (1997) identified six common elements of effective programs:

1. Curriculum content that focuses on teaching attention to elements in the environment, imitation, comprehension and use of language, appropriate toy play and social interaction.
2. Highly supportive teaching environments and generalization strategies including low staff-to-child ratio and fading the level of prompts as skills are mastered.
3. Use of predictability and routines such as highly structured classrooms, visual cues to facilitate transitions between activities, and visual directions.
4. A functional approach to challenging behaviors that focuses on what the child is trying to communicate, teaching more effective communication skills that replace the function of the behavior, and allowing the child to make choices.
5. Assistance transitioning to the elementary classroom.
6. Family involvement that includes parents as co-therapists in the treatment process and education programs for parents.

While experts agree that early intervention is important and highly effective, there is no conclusion regarding the amount, intensity, how specific it should be, or appropriate expectations. While early intervention is ideal between the ages of 2 to 4 years, research has demonstrated that appropriate interventions begun after the age of 4 can still have dramatic effects and produce positive outcomes. The general rule of early intervention for children with autism is "the earlier, the better."





Educational Issues

Education is the most effective treatment for children with autism. However, autism presents educators with some unique challenges. Children with autism have unusual intellectual and academic profiles that vary. No two children are alike. Therefore, no one program exists that will meet the needs of every individual with autism. Additionally, children with autism learn very differently than typical children or children with other types of developmental disabilities. To meet the needs of the individual child, it is critical to examine the child's strengths, weaknesses and unique needs when determining an appropriate educational placement and developing an Individualized Educational Plan (IEP). The following are key components of a comprehensive, individualized program for a child with autism:

1. Most importantly, an effective, comprehensive program should reflect an understanding and awareness of the challenges presented by autism.
2. Parent-professional communication and collaboration are key components for making decisions and dealing with issues that may arise.
3. On-going training and education in autism are important for both parents and professionals who work with individuals with autism. Professionals who are trained in specific methodology and techniques for autism will be most effective in implementing appropriate interventions. They will also be effective in modifying curriculum based upon the characteristics of autism and the individual child.
4. Inclusion with typically developing peers is important for a child with autism. Peers are the best models for language and social/play skills. However, the child will not learn by simply being in the environment. It is also necessary to facilitate activities that will address specific skills.
5. Formal assessment or re-evaluation of a child with autism is best done by a multidisciplinary team of professionals who have experience in the area of autism.
6. A comprehensive IEP should be based on the child's strengths and weaknesses. Goals for a child with autism usually include the areas of communication, social behavior, challenging behavior, and academic and functional skills. Transition goals must be addressed when the child reaches 16 years of age. Modifications of instruction that the child needs must be included. The IEP also must address related services, for example, occupational therapy to address fine motor or sensory needs, speech therapy, physical therapy or transportation to name a few.
7. Teaching skills in the environment in which they would naturally occur is most effective. Additionally, teaching skills in their natural sequence with natural consequences will assist generalization of the skills to new environments.
8. No one methodology is effective for all children with autism. Generally, it is best to integrate approaches according to a child's needs and responses.
9. Careful planning for transitions from year to year will help the child adapt to change.

Person-Centered Planning and Transition to Adulthood

Person-centered planning is a process through which individuals with a disability and the persons relevant to their lives (family, friends, neighbors, community members) gather with a facilitator to contribute information about the person's history, abilities, preferences, and interests. They also share their dreams, fears, expectations, and ideas to help create a vision for the person's future. There are many different tools available to facilitate person-centered planning including Individual Service Design, Lifestyle Planning, Personal Futures Planning, Essential Lifestyle Planning, MAPS, and PATH.

Once the information is compiled, a plan is developed to assist the person in obtaining his goals — such as the type of work he wants to do, where he wants to live, and what kind of recreation he wants to do in the community — by incorporating appropriate supports. The planning is centered on the person and is an ongoing process.

While person-centered planning is beneficial for any individual of any age, it complements the transition process to adulthood. Plans for adulthood must be based on the person's abilities, preferences, interests and needs. Transition planning usually begins between the ages of 14 and 16 as a part of the IEP process. The transition process serves many purposes. Mainly it introduces the family to the adult service system and determines the support systems that the person will need to work, live and recreate in the community as an adult. Critical information is provided to assist the person's team in determining appropriate goals that target skills she will need as an adult. It also provides information to the adult service providers to assist them in planning for services and implementing programs.

There is a range of employment and residential options for an adult with autism. When planning for employment, it is important to consider the characteristics of autism and their implications for vocational choice and development. The social and communication deficits associated with autism present some unique challenges for employment. However, there are also characteristics of autism that can be considered strengths such as splinter skills or intense interest areas, attention to detail, and willingness to do repetitive tasks. Often times the person will need appropriate supports to be successful in a work environment. Supports including job coaching, structure, and behavior management are implemented based upon assessment of his skills and needs.

"Our son raises guinea pigs and rabbits. He has won several blue and purple ribbons in the state fair. He really wants to develop this skill into a job when he graduates and his support system is helping him to accomplish this goal."



Bibliography

Characteristics of and Support Strategies for Individuals with Autism

Source unknown.

Discrete Trial Training

Cohen, S. (1998). Targeting Autism: What We Know, Don't Know, and Can Do to Help Young Children with Autism and Related Disorders. Berkley, CA: University of California Press.

Harris, S., & Weiss, M.J. (1998). Right from the Start: Behavioral Intervention for Young Children with Autism. Bethesda, MD: Woodbine House, Inc.

Maurice, C. (1996). Behavioral Interventions for Young Children with Autism: A Manual for Parents and Professionals. Austin, TX: Pro-ed, Inc.

Structured Teaching

Hodgdon, L. (1995). Visual Strategies for Improving Communication: Practical Supports for School and Home. Troy, MI: QuirkRoberts Publishing.

Janzen, J. (1996). Understanding the Nature of Autism: A Practical Guide. San Antonio: Therapy Skill Builders.

Schopler, E., & Mesibov, G. (1995) Learning and Cognition in Autism. New York: Plenum Press.

Visual Schedules

Hodgdon, L. (1995). Visual Strategies for Improving Communication: Practical Supports for School and Home. Troy, MI: QuirkRoberts Publishing.

Janzen, J. (1996). Understanding the Nature of Autism: A Practical Guide. San Antonio: Therapy Skill Builders.

Schopler, E., & Mesibov, G. (1995) Learning and Cognition in Autism. New York: Plenum Press.

Quill, K. (1995). Teaching Children with Autism: Strategies to Enhance Communication and Socialization. New York: Delmar Publishers, Inc.

Enhancing Language and Communication in Children with Autism

Adapted from Maurice, C. (1996). Behavioral Interventions for Young Children with Autism: A Manual for Parents and Professionals. Austin, TX: Pro-ed, Inc. and Quill, K. (1995). Teaching Children with Autism: Strategies to Enhance Communication and Socialization. New York: Delmar Publishers, Inc.

Strategies to Address Echolalia: Modeling Functional Communication

Adapted from: Echolalia: Modeling Functional Communication, by Elizabeth Ives Field, M.Ed., CCC-SP

Communication Temptations

Based on Weatherby, Amy and Prizant, Barry, ASHA TeleSeminar (1994).

Picture Exchange Communication System

Frost, L., & Bondy, A. (1994). The Picture Exchange Communication System Training Manual. Cherry Hill, NJ: PECs Inc.

Bondy, A., & Frost, L. (1994). The Picture Exchange Communication System. Focus on Autistic Behavior 9, 1-19.

Bondy, A., & Frost, L. (1998, September-October). The Picture Exchange Communication System. Advocate, 31, (5), 7-9.

Functional Assessment of Challenging Behaviors

Carr, E.G., Levin, L., McConnachie, G., Carlson, J.I., Kemp, D.C., & Smith, C.E. (1994). Communication-based Intervention for Problem Behavior: A User's Guide for Producing Positive Change. Baltimore: Paul H. Brookes.

O'Neill, R.E., Horner, R.H., Albin, R.W., Sprague, J.R., Storey, K., & Newton, J.S. (1997). Functional Assessment and Program Development for Problem Behavior: A Practical Handbook (2nd ed.). Pacific Grove, CA: Brooks/Cole Publishing Company.

Reichle, J., & Wacker, D.P. (1993). Communicative Alternatives to Challenging Behavior: Integrating Functional Assessment and Intervention Strategies. Baltimore: Paul H. Brookes.

Positive Behavioral Support

Koegel, L.K., Koegel, R.L., & Dunlap, G. (Eds.). (1996). Positive Behavioral Support: Including People with Difficult Behavior in the Community. Baltimore: Paul H. Brookes.

O'Neill, R.E., Horner, R.H., Albin, R.W., Sprague, J.R., Storey, K., & Newton, J.S. (1997). Functional Assessment and Program Development for Problem Behavior: A Practical Handbook (2nd ed.). Pacific Grove, CA: Brooks/Cole Publishing Company.

Reichle, J., & Wacker, D.P. (1993). Communicative Alternatives to Challenging Behavior: Integrating Functional Assessment and Intervention Strategies. Baltimore: Paul H. Brookes.

Social Stories

Gray, C. (1995). Social Stories and Comic Strip Conversations: Unique Methods to Improve Social Understanding. Arlington, TX: Future Horizons, Inc.

Fullerton, A., Stratton, J., Coyne, P., & Gray, C. (1996). Higher Functioning Adolescents and Young Adults with Autism. Austin, TX: Pro-Ed, Inc.

Quill, K. (1995). Teaching Children with Autism: Strategies to Enhance Communication and Socialization. New York: Delmar Publishers, Inc.

Comic Strip Conversations

Gray, C. (1994). Comic Strip Conversations. Arlington, TX: Future Horizons, Inc.

Fullerton, A., Stratton, J., Coyne, P., & Gray, C. (1996). Higher Functioning Adolescents and Young Adults with Autism. Austin, TX: Pro-Ed, Inc.

Sensory Integration

Center for Disabilities Autism and Related Disorders Program

Autism and Related Disorders Handbook 50

Anderson, E., & Emmons, P. (1996). Unlocking the Mysteries of Sensory Dysfunction. Arlington, TX: Future Horizons, Inc.

Ayres, J. (1979). Sensory Integration and the Child. Los Angeles: Western Psychological Services.

Sensory Integration International, Inc. (1991). A Parent's Guide to Understanding Sensory Integration. Torrance, CA: Sensory Integration International.

Trott, M.C., Laurel, M.K., & Windeck, S.L. (1993). SenseAbilities: Understanding Sensory Integration. Tucson, AZ: Therapy Skill Builders.

Recommendations for Supporting Individuals with High Functioning Autism

Adapted from Tips for Teaching High-Functioning People with Autism by Susan Moreno (1991 Crown Point, Indiana: MAAP Services, Inc.) and Carol O'Neal and from Recommendations for Students with High-Functioning Autism by Kerry Hogan.

Evaluating Treatment Approaches and Nontraditional Therapies

Sasso, G. (1995, November). Choosing Interventions for Individuals with Autism. Presentation conducted at the Midwest Autism Conference.

Early Intervention

Damson, G., & Fosterling, J. (1997). Early intervention in autism. In M.J. Guralnick (Ed.), The Effectiveness of Early Intervention (pp.307-326). Baltimore: Paul Brookes.

Person-Centered Planning and Transition to Adulthood

Smith, M.D., Belcher, R. G., and Juhrs, P.D. A Guide to Successful Employment for Individuals with Autism. 1995. Paul H. Brookes; Baltimore.

Appendix A – Glossary of Terms

Activities of daily living – usually include activities that are typically associated with self-help tasks such as eating, dressing, grooming or domestic activities such as cooking and cleaning.

Adaptations – modifications or alterations of the curriculum, the support systems, the environments, or the teaching strategies to match individual needs (strengths and deficits). The adaptations ensure that the student can participate actively and as independently as possible.

Adaptive behavior – refers to the individual's ability to adjust to and apply new skills to other situations (i.e., different environments, tasks, objects and people).

Apraxia – 1. able to understand spoken language and sometimes written text, but unable to speak. 2. the lack of praxis or motor planning. When seen in children, a sensory integrative dysfunction that interferes with planning and executing an unfamiliar task.

Auditory – pertaining to the sense of hearing.

Behavior – observable actions and responses to environmental stimuli. These actions and responses are also influenced by internal factors such as understanding, feelings, and emotions related to stimuli.

Brushing therapy – a special type of therapy developed by Patricia and Julia Willbarger designed for reducing tactile defensiveness by using a soft surgical brush to brush the arms, back and legs of individuals who exhibit tactile defensiveness. The stomach should never be brushed and this therapy should always be supervised by an occupational therapist or physical therapist trained in sensory integration therapy.

Communication – an interactive process that conveys information and ideas from one person to another. Communication is a social skill that has the potential for influencing others and gaining some control over one's environment.

Community-based instruction – refers to instruction which occurs in the community instead of on the school campus. Recreation/leisure, vocational, community, and domestic activities may take place in community settings. The advantage of this instruction is that the student learns skills in the natural context in which they are to be used.

Consequence – something that occurs as a direct result of action or effort. Consequences can be pleasant and reinforcing or unpleasant and punishing. Some consequences occur naturally, e.g., when you touch a hot stove, you get burned.

Consultant therapy – a form of delivery of related services in which the related service provider (e.g., speech therapist, occupational therapist) acts as a consultant to the classroom teacher or other professionals to help meet a student's IEP goals and objectives. Generally the classroom teacher works directly with the student using the expertise and recommendations provided by the therapist in the natural context of the classroom.

Delayed echolalia – see, echolalia.

Developmental disability – a disabling condition that affects intellectual, functional and / or academic development of a person before age 22.

Direct therapy – provided when the therapist works directly with the child. It may occur in the classroom or in a pull-out program with the child going to another room for therapy.

Discrete trial format – a specific method of instruction in which a task is isolated and taught to an individual by repeatedly presenting the same task to the person. For example, the individual is given a red block and a blue block. The instructor will then repeatedly ask the individual to point to or pick up the red block. Responses are recorded for each trial (command). The individual generally continues to work on the specific task until mastery is demonstrated.

Dyspraxia – 1. difficulty with smooth, coordinated voluntary movements involved in speech. 2. poor praxis or motor planning. A less severe, but more common dysfunction than apraxia.

Echolalia – the repetition of speech produced by others. The echoed words or phrases can include the same words and exact inflections as originally heard, or they may be slightly modified. Immediate echolalia refers to echoed words spoken immediately or a very brief time after they were heard. Delayed echolalia refers to echoed “tapes” that are repeated at a much later time – days or even years later.

Expressive language – refers to the language that the individual can communicate to others. Generally, when referring to oral expressive language, it indicates the individual's ability to express thoughts, feelings, wants, and desires through oral speech. Expressive language may also refer to gestures, signing, communicating through pictures and objects, and writing.

Functional academics – refers to academic skills that individuals need to function as contributing members of their communities. They include skills such as telling time, measurement, and basic money management.

Functional analysis (assessment) of behavior – a method of evaluating behaviors exhibited by an individual by carefully observing what happens before and after the behavior occurs. Specific behaviors are looked at in terms of the purposes of the behavior and what functions the behaviors are serving for the individual exhibiting the behavior.

Functional routines – the set or sequence of steps or procedures directed to achievement of a practical purpose; for example, a routine for washing dishes or for going to a movie.

Functions of communication – the purpose or reasons to communicate; for example, to request, to protest, to comment.

Generalize, generalization – terms used to describe the ability to learn a skill or a rule in one situation and be able to use or apply it flexibly to other similar but different situations. The term “overgeneralize” refers to the tendency of those with autism to use a skill in all settings just as it was taught, without modifications that reflect the differences in a situation

Gestalt, holistic – terms used to describe the distinctive processing mode common in autism. Information is taken in (recorded) and stored quickly in whole unites or “chunks,” without analysis for meaning. These “chunks” are stored directly in the long-term-memory system

Hyperlexia – an ability to learn to read at an early age and advanced level without instruction.

Hypersensitivity – acute, often painful, reaction to sensory input.

Hyposensitivity – little or no reaction to sensory input.

Immediate echolalia – see, echolalia.

Inclusion – a situation in a school or community setting where children with disabilities are included with children without disabilities.

Individual Education Program (IEP) – an individualized special education program designed to meet each child's educational needs.

Individualized Family Support Plan (IFSP) – a support plan designed to meet the individual needs of children (birth to three) and their families who qualify as eligible for early intervention services.

Joint compression – a technique used by occupational therapists in which various joints are “pushed together” to meet the need for deep pressure exhibited by many individuals with autism. Joint compression should only be used when carefully supervised by an occupational therapist.

Joint attention – when an infant and caregiver coordinate their attention about an object of mutual interest. This involves shifting their attentions from each other to an object and back. Joint attention is sometimes called referential looking.

Lovaas Method – an intensive behavioral therapy that often requires a minimum of 40 hours per week in one-on-one therapy. Discrete trial formats are one technique used to provide the intensive behavioral therapy.

Motor planning – the ability of the brain to conceive of, organize, and carry out a sequence of unfamiliar actions. Also known as praxis.

Multidisciplinary team – refers to an assessment team which has professional members from various disciplines (education, speech pathology, psychology, medicine) to evaluate the total child.

Natural cue – an object or event that is always present or always occurs as part of the natural environment and that stimulates or triggers a response or action. (A full laundry basket is a signal that it is time to do the laundry; the sound of the cash register ringing up the total is a signal to pay.)

Neurobiological disorder – a disorder which has its origin in the neurological or biological functioning of the body.

Occupational therapist (OT) – therapist who specializes in improving the development of the fine motor and adaptive skills.

Perseveration – repetitive movement or speech, or sticking to one idea or task.

Physical therapist (PT) – a specialist who addresses motor skills to help children move in a more efficient and coordinated manner.

Pragmatics – the practical aspects of using language to communicate in a natural context. It includes the rules about eye contact between speaker and listener, how close to stand, taking turns, selecting topics of conversation, and other requirements to ensure that satisfactory communication occurs. Many of these rules have a cultural base.

Perseveration – the redundant repetition of a word, thought, or action without the ability to stop or move on. For example, when a person steps through the door, then rocks back and forth, seemingly unable to follow through with the other foot; or when one erases a mistake until the paper is worn through.

Punishment – an unpleasant event that occurs as a direct consequence of a behavior and that decreases the strength of the behavior or the likelihood that it will be repeated.

Receptive language – refers to the ability to understand what is being said, signed, or read.

Reinforcement – a pleasant event that occurs immediately as a direct result of an action and that increases the strength of the action or the likelihood that the action will be repeated.

Respite care – skilled adult supervision and child care that can be provided in your home or the home of the respite provider. Respite services offer the primary care givers (parents) an opportunity to get temporary relief from the demands of living with a person with severe disabilities. In some areas, this service may be provided at low or no cost through various funding agencies.

Response – an action or behavior that is triggered by a preceding cue or stimulus (object, action, or event).

Scheduling – a planning process that organized a sequence of events to achieve a goal. A schedule is the product of that planning process – a plan or an arrangement of events to accomplish goals.

Self-regulatory and self-stimulatory behavior (stimming) – self-initiated, repetitive movements performed (presumably) to relieve stress (i.e., rocking, flapping, spinning, finger-flicking, and/or unusual manipulation of inanimate objects).

Sensory defensiveness – refers to a group of symptoms that are indicative of over reactions of our normal protective senses across sensory modalities. Individuals may exhibit patterns of avoidance, sensory seeking, fear, anxiety, and even aggression in reaction to certain sensory stimuli.

Sensory diet – according to Patricia and Julia Willbarger, “an activity plan that includes specific activities designed to decrease sensory defensiveness. Timing, intensity, and sensory qualities of these activities are highlighted.” Jumping on a trampoline or swinging are examples of activities that might be part of a sensory diet.

Sensory integration – the organization of sensory input for use by the individual. Parts of the nervous system work together through sensory integration so that an individual can effectively interact with the environment.

Sensory Integration Therapy (SI) – treatment involving sensory stimulation and adaptive responses to it according to the child’s neurologic needs. Therapy is implemented by an occupational therapist and usually involves full body movements that provide vestibular, proprioceptive and tactile stimulation. The goal of therapy is to improve the way the brain processes and organizes sensations.

Sensory integrative dysfunctions (disorders) – refers to irregularities in brain functioning that make it difficult for the individual to integrate sensory input. Sensory integrative dysfunctions or disorders may be the basis for difficulties experienced by individuals with autism as they interpret the world around them.

Social skills – positive, appropriate, social behaviors that are generally considered necessary to communicate and interact with other.

Speech and language pathologist/therapist (SLP/T) – therapist who works to improve speech and language skills as well as oral-motor activities.

Stereotypy – prolonged repetition of a behavior.

Support systems – the adaptations and assistance required to ensure increasing independence. (One learner's support system may include a daily calendar, transition cues, a 1:1 interpreter for some classes, and a consulting occupational therapist.)

Syndrome – a condition characterized by a cluster of co-occurring symptoms that have a specific effect on a group of individuals, for example, Fetal Alcohol Syndrome, Down Syndrome, autism.

Tactile – pertaining to the sense of touch on the skin.

Tactile defensiveness – a sensory integrative dysfunction in which tactile sensations create discomfort for an individual with autism. Lightly touching the individual with autism may cause excessive emotional reactions or other behavior problems because of tactile defensiveness.

TEACCH – a structured teaching intervention developed by Division TEACCH of the University of North Carolina at Chapel Hill. The components of the program include physical structure, schedules, individual work systems, visual structure, and routines.

Transition cue – an object that serves as a reminder of the targeted destination. (The car keys held in the hand trigger or cue moving to the car; a 3"x5" card with a drawing of the gym serves as a reminder to continue moving to the gym.)

Transitions – may refer to changes from one environment to another such as from an early childhood program to a kindergarten or first grade class or from a secondary program to the world of work. Transitions may also refer to changes from one activity to another. Transitions are typically very difficult for individuals with autism.

Visual adaptations, visual support systems – written schedules, lists, charts, picture sequence, and other visuals that convey meaningful information in a permanent format for later reference. Visual adaptations allow the person with autism to function more independently without constant verbal directions.

Work system – the visual organization of directions, materials, and environments to clarify expectations. This clear visual organization promotes independence from another person to provide verbal prompts and cues.

Appendix B – Glossary of Acronyms

AAC	Alternative and Augmentative Communication
AAPEP	Adolescent and Adult Psychoeducational Profile
AB	Adaptive Behavior
ABA	Applied Behavior Analysis
ADA	Americans with Disabilities Act
ADI-R	Autism Diagnostic Interview – Revised
ADL	Activities of Daily Living
AIT	Auditory Integration Training
APE	Adapted Physical Education
AS	Asperger’s Syndrome
ASA	Autism Society of America
ASICD	Adapted Sequenced Inventory of Communication Development
CA	Chronological Age
CARS	Childhood Autism Rating Scale
CDD	Childhood Disintegrative Disorder (Heller’s Syndrome)
CHAT	CHecklist for Autism in Toddlers
CSBS	Communication and Symbolic Behavior Scales
DD	Developmental Disability
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
DTF	Discrete Trial Format
ERIC	Education Resources Information Center
ESY	Extended School Year
FA	Functional Assessment of Functional Analysis
FAPE	Free Appropriate Public Education
FC	Facilitated Communication
FERPA	Family Education Rights and Privacy Act
HFA	High Functioning Autism
IDEA	Individuals with Disabilities Education Act
IEP	Individualized Education Program
IEP	Individual Educational Plan
IFSP	Individual Family Service Plan
IHP	Individualized Habilitation Plan
IQ	Intelligence Quotient
JADD	Journal of Autism and Developmental Disorders
KABC	Kaufman Assessment Battery for Children
LRE	Least Restrictive Environment
MDT	Multidisciplinary Team
MLU	Mean Length of Utterance

MR	Mental Retardation
NICHCY	National Information Center for Children and Youth with Disabilities
NIH	National Institutes of Health
OCD	Obsessive Compulsive Disorder
ODD	Oppositional Defiant Disorder
OSEP	Office of Special Education Programs
OSERS	Office of Special Education Rehabilitative Services
OT	Occupational Therapist, Occupational Therapy
P & A	Protection and Advocacy
Part H	Refers to the Early Childhood portion of IDEA
PBS	Positive Behavioral Supports
PDD	Pervasive Developmental Disorder
PDD-NOS	Pervasive Developmental Disorder – Not Otherwise Specified
PECS	Picture Exchange Communication System
PEP-R	Psychoeducational Profile – Revised
PPVT-R	Peabody Picture Vocabulary Test – Revised
PT	Physical Therapist, Physical Therapy
SI	Sensory Integration
SIB	Self-injurious Behavior
SICD-R	Sequenced Inventory of Communication Development – Revised
SLP	Speech-Language Pathologist
SSI	Supplemental Security Income
SSRI	Selective Serotonin Reuptake Inhibitor
TEACCH	T reatment and E ducation of A utistic and related C ommunication handicapped C hildren
TOPS	Test of Problem Solving
WPPSI-R	Wechsler Preschool and Primary Scale of Intelligence – Revised
WISC-III	Wechsler Intelligence Scales for Children, 3rd Edition

Appendix C – Organizations

Autism Society of America (ASA)
7910 Woodmont Avenue, Suite 300
Bethesda, MD 20814
800-3-AUTISM or 301-657-0881 www.autism-society.org

Center for Disabilities
Autism and Related Disorders Program
Department of Pediatrics
University of South Dakota School of Medicine
1400 West 22nd Street
Sioux Falls, SD 57105
800-658-3080 (Voice/TTY) or 605-357-1431 www.usd.edu/cd/autism

Indiana Resource Center for Autism (IRCA)
Indiana Institute on Disability and Community
2853 East 10th Street
Bloomington, IN 47408
812-855-6508 www.iidc.indiana.edu/~irca

The Autism Services Center
P.O. Box 507
Huntington, WV 25710-0507
304-525-8014 www.autismservices.com

Autism Research Institute (ARI)
4182 Adams Avenue
San Diego, CA 92116
619-281-7165 www.autism.com

TEACCH (Division for Treatment and Education of Autistic and
Related Communication Handicapped Children)
CB #7180; 100 Renee Lynne Court
The University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-7180
919-966-2174 www.teacch.com

Clinic for the Behavioral Treatment of Children
O. Ivar Lovaas, Director
University of California, Los Angeles
Department of Psychology
1282A Franz Hall, P.O. Box 951563
Los Angeles, CA 90095-1563
310-825-2319

Pyramid Educational Consultants
226 W. Park Place Ste. 1
Newark, DE 19711
888-PECS INC (888-732-7462) www.pecs.com

Sensory Integration International
1602 Cabrillo Avenue
Torrence, CA 90501-2701
310-787-8805 www.sensoryint.com

Autism Resource Network
904 Mainstreet #100
Hopkins, MN 55343
952-988-0088

Asperger Syndrome Coalition of United States
P.O. Box 351268
Jacksonville, FL 32235
866-4-ASPRGR (866-427-7747) www.asperger.org

The Family Connection
Beach Center on Families and Disability
University of Kansas
Haworth Hall Room 3136
1200 Sunnyside Ave.
Lawrence, KS 66045
785-864-7600 www.beachcenter.org

National Information Center for Children and Youth with Disabilities (NICHCY)
Box 1492
Washington, DC 20013
800-695-0285 (Voice/TTY) www.nichcy.org

National Parent Network on Disabilities (NPND)
6613 E. Church St. Ste. 100
Douglasville, GA 30134
770-577-3307 www.npnd.org

South Dakota Parent Connection
3701 W. 49th Street, Suite 200B
Sioux Falls, SD 57106
800-640-4553 (in South Dakota) or 605-361-3171 www.sdparent.org

Sibling Support Project
Children's Hospital and Medical Center
P.O. Box 5371, CL-09
Seattle, WA 98105
206-527-5712 www.seattlechildrens.org

Appendix D – Journals and Newsletters

Journal of Autism and Developmental Disorders

Kluwer Academic Publishers
233 Spring Street Fl 7
New York, NY 10013-1578
212-620-8000 www.wkap.nl/journal

FOCUS on Autism and Other Developmental Disabilities

Pro-Ed
8700 Shoal Creek Boulevard
Austin, TX 78757-6897
800-897-3202 www.proedinc.com/store

The Advocate

Autism Society of America
7910 Woodmont Ave., Ste. 300
Bethesda, MD 20814
800-3-AUTISM www.autism-society.org

The Autism Research Review International, quarterly newsletter

Autism Research Institute
4182 Adams Avenue
San Diego, CA 92116
619-563-6840 www.autism.com/ari

MAAP Quarterly Newsletter

More Advanced Individuals with Autism, Asperger's Syndrome and PDD
P.O. Box 524
Crown Point, IN 46307
219-662-1311 www.maapservices.org

The Morning News

Carol Gray
Jenison High School
2140 Bauer Road
Jenison, MI 49428
616-457-8955 www.autism.org/mnnews

The Source, quarterly newsletter

ASC-US (Asperger Syndrome Coalition of the U.S.)
P.O. Box 351268
Jacksonville, FL 32235
866-4-ASPRGR www.aperger.org

Appendix E – Publishers/Resource Providers

Autism Asperger Publishing Company (AAPC)
PO Box 23173
Shawnee Mission, KS 66283
913-897-1004
www.asperger.net

Autism Resource Network
904 Mainstreet #100
Hopkins, MN 55343
952-988-0088

Brookes Publishing Co.
P.O. Box 10624
Baltimore, MD 21285-0624
800-638-3775
www.brookespublishing.com

Future Horizons, Inc.
721 W. Abram St.
Arlington, TX 76013
800-489-0727
www.futurehorizons-autism.com

Janelle Publications
PO Box 811
DeKalb, IL 60115
800-888-8834
www.janellepublications.com

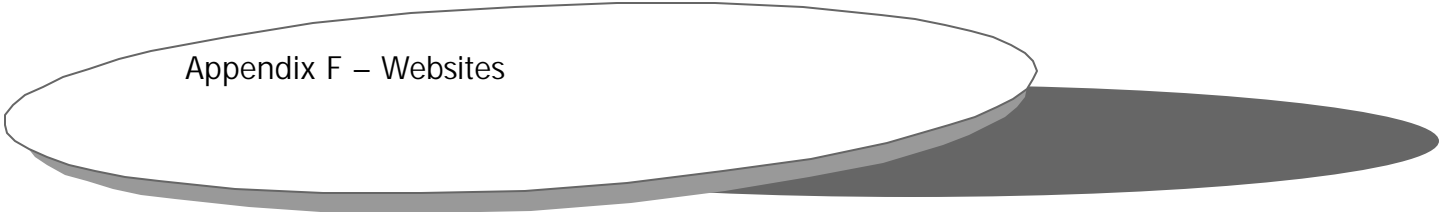
LinguiSystems, Inc.
3100 4th Avenue
East Moline, IL 61244
800-776-4332
www.linguisystems.com

Mayer-Johnson Co.
P.O. Box 1579
Solana Beach, CA 92075
800-588-4548
www.mayer-johnson.com

PRO-ED, Inc.
8700 Shoal Creek Boulevard
Austin, TX 78757
800-897-3202
www.proedinc.com

Quirk Roberts Publishing
6219 Seminole Dr.
Troy, MI 48085
248-879-2598
www.usevisualstrategies.com

Woodbine House
6510 Bells Mill Road
Bethesda, MD 20817
800-843-7323
www.woodbinehouse.com



Appendix F – Websites

Center for Disabilities
www.usd.edu/cd/autism

Autism Society of America
www.autism-society.org

National Alliance for Autism Research
www.naar.org

Center for the Study of Autism
www.autism.com

Online Asperger Syndrome Information and Support
www.udel.edu/bkirby/asperger

Future Horizons
www.futurehorizons-autism.com

Division TEACCH
www.unc.edu/depts/teacch

Lovaas Institute for Early Intervention
www.lovaas.com

Family Village
www.familyvillage.wisc.edu

Sibling Support Project
www.chmc.org/departmt/sibsupp

Asperger Syndrome Coalition of the U.S.
www.asperger.org

Autism Online
www.autismonline.org