lead to generalization. Therefore, engagement is key.

For example, if the child is engaged and motivated to have a snack, have her practice speech tools when asking for the snack. For more information, visit: http://icdl.com/staging and search for the Greenspan 2001 research document, *The Affect Diathesis Hypothesis.*

1 Keep instructions simple, clear, and concise. Be sure that the child is engaged with you, and present directions multiple times if necessary. If there is no response, try simplifying the directions and/or adding visual/contextual cues. For example, simplify "Get your coat so we can go outside" to "Going outside. Get coat" while pointing to the child's coat.

2 Provide visual cues, concrete examples and drawings to increase comprehension. For example, try stretching Playdough® while practicing easing in to a speech sound "e e e a s y."

3 Increase the child's self-monitoring skills and awareness of how behaviors affect interactions with others. Focus on the accuracy of self-assessment of his speech in simple and complex speaking situations. Then teach problem solving to allow him to change his speech accordingly.

4 Keep in mind the child's level of functioning: some are quite literal and need more concrete examples, such as rating their use of speech tools "thumbs up" or "thumbs down," while others can use more cognitively-based rating systems, such as using a scale from 1-5.

5 Address overall communication skills. By introducing and modeling appropriate skills such as eye contact, volume, rate, and listening skills yourself, you will help to increase the child's confidence and self-esteem while reducing speech-related anxiety.

6 Young people with ASDs benefit from working with socially stronger peers who can act as role models. To foster generalization of new skills, explore grouping the individual with others who have similar speech characteristics and who are good social models. This will provide an optimal setting to practice fluency tools, social skills, and overall self-monitoring.

For more information on ASDs...

National Institute of Child Health and Human Development Clearinghouse
Provides information on autism and autism research.
800-370-2943
E-mail: NICHDClearinghouse@mail.nih.gov
Web site: www.nichd.nih.gov/autism

Asperger's Syndrome Education Network
A national non-profit organization that provides education and support to families and individuals affected with Asperger's Syndrome, PDD-NOS, High-Functioning Autism, and related disorders.
9 Aspen Circle, Edison, NJ 08820
732-321-0880
E-mail: info@aspennj.org, Web site: www.aspennj.org

Autism Society of America
7910 Woodmont Ave., Suite 300, Bethesda, MD 20814-3067
800-3-AUTISM, 301-657-0881, Fax: 301-657-0869
Web site: www.autism-society.org

References and Resources about ASDs and Stuttering

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Autism Spectrum Disorders and Stuttering

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What are Autism Spectrum Disorders?

Autism Spectrum Disorders (ASDs) include Autism, Pervasive Developmental Disorder Not Otherwise Specified, and Asperger's Syndrome. All three are characterized by impairments in 1) social interaction, 2) communication, and 3) restricted interests/repetitive behaviors. Specific criteria distinguish one subgroup from another. ASDs are often first diagnosed in childhood, and intelligence ranges from below to above average. There is no definitive research regarding the cause of ASDs.

Although there are no specific statistics on the number of people with ASDs who stutter, there have been numerous documented cases of stuttering in ASDs. These range from typical forms of stuttering, such as repetitions, e.g. c-c-cup, prolongations, e.g. cuuuup, or blocks, i.e. sound gets "stuck," to less typical stuttering, such as repetitions of the last syllable of a word, e.g. sound-ound.

Speech may also sound disorganized due to a higher than average number of normal disfluencies, interjections, repetitions of phrases, and/or revisions of thoughts. Individuals may show different combinations and levels of awareness of these symptoms.

Diagnosis

A professional specializing in pediatric development typically makes the diagnosis of an ASD. Diagnosis often occurs between the age of two and eight years. However, a speech-language pathologist (SLP) typically diagnoses stuttering. Because children with ASDs have many ongoing issues with social interaction and communication, stuttering is not always noticed and diagnosed until a child reaches school age. Interactions between ASDs and stuttering present a complex combination of disorders for which research is ongoing. An SLP who has expertise in the area of fluency should evaluate stuttering in this population; those also familiar with ASDs are ideal evaluators. The evaluation should help distinguish typical disfluencies from stuttering and determine whether difficulties lie in speech production or other areas, such as organization of language. It is important to determine if the problem is motor and/or language-based because treatment will be based upon this determination. After listening to the organization of a child's language during conversation and/or story retelling activities, an SLP

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may decide to test word finding or narrative language to determine whether accompanying language deficits are present. If both formal testing and observation of the child's speech in everyday settings reveal an underlying language deficit, the SLP should address the language issues along with the stuttering.

Treatment

Treatment should always be based upon each client's needs, and this is particularly true with ASDs. Because stuttering interferes with effective conversation skills and therefore social interaction, treatment is crucial. Social interaction and self-monitoring can be more difficult for those with ASDs. So treatment will often focus upon use of fluency tools in social exchanges. Tools may include:

- **Traditional stuttering tools, such as easy onset or prolonged speech.** How the tools are taught will depend upon the child's level of comprehension. Those with a higher comprehension level will benefit from a description of techniques either written or in picture form coupled with practice. Carol Gray's model for Social Stories,™ www.thegraycenter.org and www.autism.org/stories.html, is often helpful for describing stuttering tools for those with ASDs. Children with a lower comprehension level will benefit from less description and more imitation of therapist models. Concrete visual models, such as stretching modeling clay for "stretchy," prolonged speech, are often helpful to demonstrate the skill. Self-monitoring in context can be difficult for those with ASDs, so consistent repeated practice is often necessary for mastery. To help ensure carryover to everyday environments, teachers, parents and others who interact with the child should gently remind him about tool use.
- **Tools for organizing thoughts, such as visual organizers.** Story webs and visual mapping programs such as Inspiration® or Kidspiration,® www.inspiration.com, can be helpful in organizing thoughts. Once skills are demonstrated, they should be practiced in more to less structured settings.
- **Increase pausing to allow extra time to:**
  - organize thoughts,
  - breath in appropriate places, and
  - apply fluency tools, such as easy onsets, easy starts, or prolonged speech.

Pausing can be introduced by inserting visual markers to indicate where to pause when reading sentences or paragraphs. Model pausing if the child has difficulty with reading tasks.

Tips for parents

If your child is stuttering, treat him as you would any other child: with kindness and respect. Above all, convey total acceptance. Working on communication and fluency skills is a challenge that affects all areas of a child's day; therefore, the child needs as much support, encouragement and acceptance as possible. When he is speaking, try to focus on the following:

1 Listen to what your child has to say. Use facial expressions and other body language to convey that you are listening to the content of the message and not to how your child is talking. Maintain eye contact.

2 Allow your child the time he needs to finish his thoughts.

3 Help all members of the family learn to take turns talking and listening. Objects such a microphone or a salt shaker at the dinner table can be passed to indicate each person's turn. This provides a good model for the child with an ASD and helps her to feel like your family is "in this together."

4 Choose specific and brief times to work on strategies in the midst of everyday activities, such as 5-10 minutes during bath time. Short **consistent** practice is often most effective.

Tips for therapists in structuring sessions

Structure activities according to a consistent, organized schedule that the young person has helped to create. Post these routines in the therapy room so he is aware of the schedule and what comes next. The ASD population benefits most from **direct engagement**; this is contrary to the ADHD population who respond to rewards.

Therefore, you should teach and practice tools in the context of play or preferred activities to keep the young person engaged, and to make activities meaningful. If activities are meaningful, she will remember and use them outside therapy. Research indicates if children with ASDs are not first engaged, all the rewards in the world will not