Speech: Starts at the Hips and Ends at the Lips
Adding Language to EAAT

Shannon Middleton, M.A., CCC-SLP, HPCS
Speech Therapist or Speech-Language Pathologist?

Speech-language pathologists (SLPs) work to prevent, assess, diagnose, and treat speech, language, social communication, cognitive-communication, and swallowing disorders in children and adults.
Assess and treat what???

- **Speech disorders** occur when a person has difficulty saying speech sounds correctly or fluently or has problems with his voice.
- **Language disorders** occur when a person has trouble understanding others (called **Receptive Language**) or trouble sharing her thoughts, ideas, and feelings (called **Expressive Language**). Language disorders may be spoken or written and may involve the form, content and/or use of language in functional and socially appropriate ways.
- **Social communication disorders** occur when a person has trouble using verbal and nonverbal communication. These disorders may include problems communicating for social purposes (like greeting, commenting, or asking questions), talking in different ways to suit the listener and setting (like talking to your boss compared to talking to your friends), and following rules for conversation (like turn taking). All individuals with Autism Spectrum Disorder have social communication problems. Individuals with other conditions, such as traumatic brain injury, may also have social communication disorders.
- **Cognitive-communication disorders** occur when a person has problems organizing thoughts, paying attention, remembering, planning, and/or problem-solving. These disorders are usually seen as a result of a stroke, traumatic brain injury or dementia.
- **Swallowing disorders (dysphagia)** occur when a person has trouble feeding and swallowing.
And SLP’s may . . .

- Provide aural habilitation or rehabilitation for individuals who are deaf or hard of hearing

- Provide augmentative and alternative communication (AAC) systems for individuals

- Work with individuals who want to learn how to communicate more effectively (ex: accent modification)
Adult Speech and Language Disorders
Apraxia

• A motor speech disorder with the messages from the brain to the mouth being disrupted.
• The person knows what words they want to say, but their brains have difficulty coordinating the muscle movements needed to say all the sounds in the words.
• Speech therapy focuses on improving the planning, sequencing, and coordination of muscle movements for speech production.
• **The person may need to slow down her speech rate so that she can produce all the needed sounds.**
Dysarthria

• A motor speech disorder caused by damage to the brain.
• The person’s speech may sound slurred or mumbled.
• This may occur at birth, as in cerebral palsy or muscular dystrophy, or may occur later in life due to one of many different conditions that involve the nervous system.
• Speech therapy may focus on:
  • **Slowing the rate of speech**
  • **Improving breath support so the person can speak louder**
  • Strengthening the muscles used in speech
  • Increasing tongue and lip movement
  • Improving speech sound production so that speech is more intelligible
Stuttering

• Affects the fluency of speech. It often begins during childhood and may last throughout the person’s life.
• Often includes repetitions of words or parts of words, prolongations, and/or blocks of speech.
• **Speech therapy may focus on having the person control and/or monitor their speech rate, saying words in a slower and less tense manner, and controlling their breathing.**
• **In general, people who stutter want to be treated just like everyone else. Allow them the time they need to say what they want to say. Don’t finish sentences or fill in words for them.**
• **It may be helpful to simply ask the person what would be the most helpful way to respond to her stuttering. Find an honest, supportive way to let them know that you are interested in what they are saying, rather than how they are saying it.**
More Adult Speech Disorders

- Vocal cord nodules and polyps
- Vocal cord paralysis
- Paradoxical Vocal Fold Movement-the vocal cords function normally most of the time, but when an episode occurs, they close when they should be open.
- Spasmodic Dysphonia-the movement of the vocal cords is forced and strained causing a jerky, quivery, hoarse, tight voice. Periods of no sound and periods when there is near normal voice occur.
Aphasia

- Results from damage to the parts of the brain that contain language (usually the left hemisphere) and is most often caused by a stroke. May also be caused by a tumor, traumatic brain injury or progressive neurological disorders.
- May cause difficulties in speaking, listening, reading, and writing, but does not affect intelligence.
- Specific symptoms and severity of aphasia vary depending on the location and extent of brain damage. The person may experience difficulty producing language, understanding language, reading and writing.
Medical conditions which may cause speech and language difficulties:

- **Amyotrophic Lateral Sclerosis (ALS)** - a progressive brain disease that attacks the nerve cells that control muscles resulting in gradual degeneration and death of motor neurons located in the brain, brainstem, and spinal cord. When the motor neurons in the brainstem are affected, the muscles used in speech and swallowing are impaired.
- **Dementia** - a group of symptoms affecting memory, thinking and social abilities which are severe enough to interfere with daily functioning.
- **Huntington’s Disease** - an inherited disorder characterized by progressive degeneration of brain cells resulting in difficulty in motor control, cognition, and behavior.
- **Laryngeal Cancer** - cancer located in the larynx
- **Oral Cancer** - cancer located in the mouth including the lips, gums, inner cheeks, tongue, roof and floor of the mouth, tonsils and salivary glands.
- **Right Hemisphere Brain Injury** - damage to the right hemisphere may lead to disruption of attention, memory, reasoning, and problem solving. In many cases, the person is not aware of the problems.
- **Stroke** - a deprivation of oxygen and nutrients to brain tissue caused by an interruption or severe reduction in blood supply to the brain.
- **Traumatic Brain Injury:**
  - Open Head Injury - the result of an object penetrating the skull and entering the brain.
  - Closed Head Injury - the result of a blow to the head, or a sudden, violent motion that causes the brain to knock against the skull. The skull remains intact.
Childhood Speech Disorders
Childhood Apraxia of Speech

- A motor speech disorder. The brain has problems planning to move the body parts (e.g., lips, jaw, tongue) needed for speech. The child knows what he wants to say, but his brain has difficulty coordinating the muscle movements necessary to say the words.

The Young Child
- Has only a few consonant and vowel sounds
- Has problems combining sounds together
- Simplifies words by replacing difficult sounds with easier ones or by omitting difficult sounds
- May have problems feeding

The Older Child
- Makes inconsistent sound errors
- Understands language better than she can talk
- Has difficulty imitating speech
- Groping movements may be noted when trying to produce sounds or to coordinate the lips, tongue, and jaw for purposeful movement
- Has more difficulty saying longer words or phrases
- Is hard to understand, especially for an unfamiliar listener

Possible Other Problems:
- Delayed language development
- Difficulty with fine motor movement or coordination
- May demonstrate hypersensitivity or hyposensitivity in their mouth
- May have difficulties learning to read, spell and write
Speech Sound Disorders

• Articulation disorders-difficulty making speech sounds. Sounds may substituted, omitted, added or changed.
• Many speech sound disorders occur without a known cause. Some speech errors can result from physical problems including:
  • Developmental disorders (ex: Autism Spectrum Disorders)
  • Genetic syndromes (ex: Down Syndrome)
  • Hearing loss
  • Neurological disorders (Ex: Cerebral Palsy)
  • Children who have frequent ear infections when they were young are at a greater risk for speech sound disorders.
More Childhood Speech Disorders

- **Dysarthria** - impaired movement of the muscles used for speech production caused by damage to the brain. May occur at birth as in cerebral palsy or muscular dystrophy.
- **Orofacial Myofunctional Disorders** - the child’s tongue moves forward in an exaggerated way during speech, swallowing and at rest.
- **Stuttering**
- **Voice**
Childhood Language Disorders
Preschool Language Disorders

Children with receptive language difficulties may have trouble:
• Following directions
• Understanding what questions are asking
• Understanding conversations
• Identifying named objects and pictures

Children with expressive language difficulties may have trouble:
• Asking and answering questions
• Naming objects and pictures
• Putting words together to make sentences
• Learning songs and rhymes
• Using correct grammar and sentence structure

Although the cause of language disorders is often unknown, some causes may be:
• Family history of language disorders
• Premature birth
• Low birth-weight
• Hearing loss
• Autism Spectrum Disorders
• Intellectual disabilities
• Syndromes
• Fetal alcohol spectrum disorder
• Stroke
• Brain injury
• Tumor
• Cerebral palsy
• Poor nutrition
• Failure to thrive
Childhood Language Disorders

- **Language-based Learning Disabilities**—problems with age-appropriate reading, spelling, and/or writing. Most children diagnosed with a learning disability have average to superior intelligence.

- **Selective Mutism**—when the child doesn’t speak in certain situations, like during school, but speaks at other times, like at home. Children with selective mutism may also show anxiety disorder, excessive shyness, and social isolation.
Medical & Developmental Conditions

• Cleft Lip and/or Cleft Palate—children can be born with a variety of cleft types and severity may vary.

• Attention Deficit/Hyperactivity Disorder—most common in school age children, it is a condition of the brain that affects a person's ability to pay attention.

• Traumatic Brain Injury
Autism Spectrum Disorders

Children with ASD, have social, communication and language difficulties. Autism is a spectrum, meaning it may be mild or severe.

**Social Skills**

A child with ASD may seem to be in his own world and have difficulty connecting socially with others. It may be hard to:

- Have joint attention (the ability to share a common focus with another person about the same object or events)
- Play with others
- Understand feelings
- Make and keep friends

**Communication Skills**

Sometimes, a child with ASD might lose words or other skills that he has used before. May also have difficulty:

- Understanding and using gestures
- Following directions
- Understanding and using language
- Having conversations
- Learning to read or write (OR may read early or at a higher grade level but does not understand what she reads)

Sometimes a child with ASD may

- Repeat words or phrases they have heard (echolalia)
- Talk in a monotone voice or in a sing-song voice
Augmentative and Alternative Communication

AAC includes all forms of communication (except oral speech) that can be used to express one’s thoughts, wants or needs.

- Facial expressions
- Gestures
- Symbols or pictures
- Writing or spelling
- Picture and symbol communication boards
- Electronic devices
Augmentative and Alternative Communication
<table>
<thead>
<tr>
<th>Back</th>
<th>top</th>
<th>middle</th>
<th>bottom</th>
<th>before</th>
<th>after</th>
<th>along</th>
<th>through</th>
<th>toward</th>
<th>under</th>
<th>within</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>for</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>in</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>against</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>at</td>
<td></td>
<td></td>
<td>into</td>
<td>by</td>
<td>about</td>
<td>across</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>between</td>
<td></td>
<td></td>
<td>around</td>
<td>except</td>
<td>below</td>
<td>outside</td>
<td>behind</td>
<td>over</td>
<td></td>
</tr>
<tr>
<td></td>
<td>inside</td>
<td>above</td>
<td>without</td>
<td>from</td>
<td>of</td>
<td>during</td>
<td>upside down</td>
<td>under</td>
<td>meat</td>
<td></td>
</tr>
</tbody>
</table>

CLEAR
<table>
<thead>
<tr>
<th>PET/FARM</th>
<th>ZOO</th>
<th>INSECTS</th>
<th>BIRDS</th>
<th>WATER</th>
<th>BABY ANIMALS</th>
<th>WOODS</th>
<th>DINO</th>
<th>PARTS</th>
<th>HOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Dog" /></td>
<td><img src="image" alt="Zoo" /></td>
<td><img src="image" alt="Insects" /></td>
<td><img src="image" alt="Birds" /></td>
<td><img src="image" alt="Water" /></td>
<td><img src="image" alt="Baby Animals" /></td>
<td><img src="image" alt="Woods" /></td>
<td><img src="image" alt="Dinosaur" /></td>
<td><img src="image" alt="Parts" /></td>
<td><img src="image" alt="Homes" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>go back</th>
<th>receive</th>
<th>carry</th>
<th>stink</th>
<th>clear</th>
<th>bring</th>
<th>wild</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Go Back" /></td>
<td><img src="image" alt="Receive" /></td>
<td><img src="image" alt="Carry" /></td>
<td><img src="image" alt="Stink" /></td>
<td><img src="image" alt="Clear" /></td>
<td><img src="image" alt="Bring" /></td>
<td><img src="image" alt="Wild" /></td>
</tr>
</tbody>
</table>
Proloquo2Go: AAC in your pocket

Home

Basics  Categories  Comments  Help
Hi, Bye  I need  I want  Keyboard
Manners  My Spaces  Questions  Quick
Spaces  Starters  WORDS UP  Yes No

Owl icon
Speech starts at the hips and ends at the lips!
“For many cerebral palsied individuals, proper positioning of the pelvis is crucial to the maintenance of adequate breath support for speech. Or, in other words, speech therapy begins at the hips and goes to the lips.”

From Speech and Hearing Science Anatomy and Physiology 3rd Edition by Willard R. Zemlin, 1988
Speech Therapy using Hippotherapy Techniques

Speech production is dependent on postural control, respiratory support, motor control, timing and rhythm. The movement from the horse facilitates the systems that support speech production and communication.

- Nervous System-(CNS and PNS) The movement of the horse is rhythmic and symmetrical. It influences core stability, motor control and timing of movement.
- Skeletal and Muscular Systems-The horse’s movement influences joint stability, movement of the pelvis and spine, range of motion and postural control.
- Respiratory System- The movement from the horse helps elongate the trunk, increase trunk rotation and increase trunk flexion/extension.
- Lymphatic System plays a part in arousal, motivation, fear, emotion, memory, self-concept/body image.
- Sensory Systems include Visual, Proprioceptive/Kinesthetic (body awareness, coordination), Auditory, Vestibular, and Tactile
Building Communication in the Barn

Take the time to OWL (from the Hanen Language Program):

- Observe
- Wait
- Listen
Observe-Watching helps us recognize the person’s feelings and needs. Observe their focus of attention, facial expression and body language. Also look at their state of alertness, rate of breathing, pitch, volume and duration of their sounds. Observing gives us the information we need to interpret and understand the individual’s feelings and interests.
Wait

Wait-Waiting gives the person the time he needs to express himself in his own way. It gives him time to express his needs, interests and feelings.
Listen

Listen—Listening encourages the person to express herself. It gives us an opportunity to understand her better and be able to respond more sensitively to her. It also helps the individual feel recognized and gives security and encouragement to continue to communicate.
The A’s of Communication

- Adapt
- Add
Adapt: Adapt to share the moment of communication by:

- Being face to face
- Letting the person know you’re listening:
  - Imitate (for a young child)
  - Interpret
  - Comment
  - Ask questions
Add: Add information by

- Imitating and adding information (for a young child)
- Interpreting
- Expanding (describing, explaining, talking about feelings, pretending, talking about the future)
Social Thinking -- Michelle Garcia Winner
Thinking With Your Eyes

- **Thinking with Your Eyes** - Eyes are very important during communication--they tell us what the person is thinking about.
  - What am I looking at?
  - What am I thinking about?
Expected vs. Unexpected

• **Expected vs. Unexpected** - What is expected behavior? What is unexpected?

• Unexpected behaviors can make others have uncomfortable thoughts.
Body & Brain in the Group

- **Body and Brain in the Group**-
  - Our body in the group shows that we are doing whole body listening.
  - Having our brain in the group means we are thinking about what the group is thinking about.
  - We are following the “group plan”.
Superflex and Rock Brain (one of the Unthinkables)-Superflex is flexible and can use his super social skills. Rock Brain can only think of 1 thing!
Visual Schedule

- Helps with sequencing and anxiety.
• After the task is finished, move it to the right or off the board.
Adding Language to Games

- **Naming** the game parts and/or telling what you do with each part
- **Requesting:** Asking for the part they want
- **Following directions:** Instructor tells where to place the parts
- **Giving directions:** Participant tells the instructor or other riders where to put the parts
- **Understanding and using prepositions:** “Put the nose above the mouth”; Participant tells where they found the part.
Feeling Frisbees

• Hide the frisbees around the riding area
• Have participants find them (and tell where they found them)
• Participants identify which feeling they found and:
  1. Tell a situation in which a person may feel this way
  2. Tell a time in which they felt this way.
You are targeting communication skills each time you:

- Ask your participant how they are feeling or what they have done today
- Expect the participant to greet their horse and team
- Give a direction or a set of directions (during mounting, warm ups, review of skills, teaching of new skills, practice of new skills, dismounting)
- Give the steps for a riding pattern and/or have the participant tell you the parts of the pattern
- Encourage turn taking and social interactions with other participants, volunteers and staff
- Encourage the participant to interact with their horse (and listen to their horse!)
- Ask for feedback from your participant (Did you like that? What was your favorite part of today’s lesson? What did you change that time?)
- Have your participant follow the sequences for grooming and tacking
- Expect your participant to tell their horse and human team “Good bye” and “Thank you”
Bibliography


Manolson, Ayala. It Takes Two to Talk, Hanen Early Language Program, 1992

Mayo Clinic, www.mayoclinic.org

Social Thinking, www.socialthinking.com

Questions and Comments:

Shannon Middleton, M.A., CCC-SLP, HPCS

shannon@rockride.org
512-930-7625
Thank you!

- ROCK, Ride On Center for Kids
- The Staff, Participants, Volunteers and Horses at ROCK, including Devon Felts, the Wednesday morning team, the Thursday afternoon team, and the Wednesday evening team.