

Facilitating Communication & Language for Children with Cochlear Implants and Vision Impairments

EARLY HEARING DETECTION & INTERVENTION

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OBJECTIVES

- Objective 1.0 – The participants will increase their knowledge and skill to determine individual child receptive and express communication and language outcomes for children who are deaf-blind with cochlear implants.
- Objective 2.0 – The participants will gain knowledge of the strategies and procedures to embed multiple targets within routines and activities in the natural environment and preschool activities.

Potential Outcomes for Children Who Are Deaf-Blind with Cochlear Implants

IF – <i>We want children to:</i>	THEN
Listen and learn...	They need to consistently wear their implant
Listen to your voice as well as their own voice	They need to have consistent, early mappings
Listen to environmental sounds	These sounds need to be contingencies
Begin to understand spoken words and phrases	We need to teach them how
Integrate listening into the development of communication	We need to lead with speech and support the child with other modalities
Comprehend speech within the context of their natural environments	We need to teach within the context of the natural environment – motivational activities
Communicate with others in the context of their natural environments	We need to build upon the communication systems that they are already using
Increase the use of language	Provide opportunities and support
IF – We want to see improved child comprehension and production outcomes...	We need to actively “teach” these outcomes within natural environments and routines/activities

Children with CI, Vision Impairments & Additional Disabilities

- Physical Disabilities – 63.8 (mild to severe)
- Cognitive Disabilities – 67.5 (mild to severe)
- Behavior Disorder – 35.7 (mild to moderate)
- Complex Health Care Needs – 70.0 (mild to severe)

Communication Development

Many of the children with multiple disabilities do not exhibit prelinguistic communication. These children need to be assessed to determine other areas of development that may need to be targeted as well as auditory perception and speech development, such as early social, cognitive and early communication.

Communication Criterion Referenced Assessment

- Early Communication Development
- Sensori-Motor Development
- Auditory & Speech Perception
- Speech Development
- Language Development

Communication Criterion Reference Assessment (attached)

Directions: Please indicate if the child uses skills often, sometimes, or not yet/rarely

Child's Response in Home and/or School Environment: <i>EARLY COMMUNICATION</i>	Often/ Usually	Sometimes	Not Yet/ Rarely	Skills to Target in Routines
• Protests by body movement	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Attends to Mother's eye gaze or touch	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Smiles and looks at Mother	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Indicates joy or happiness	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Squirms to get down	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Holds up hands or indicates "up"	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
• Begins to demonstrate anticipation	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
• Requests more by body movement	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Requests more by open hand	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
• Requests help	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
• Gives a hug/kiss upon request	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>

Inventory of Environmental Sounds in Home & Community (attached)

- Parents determine what sounds are frequently heard in their home and community environment
- Parents determine what activities/sounds are motivating to the child
- Parents learn to “teach” these sound-object/activity associations as part of a routine

Cochlear Implants:

- We see tremendous variability in the outcomes for children who are deaf-blind
- Parents must understand that they will be their child's best teacher
- Parents must understand that they will need to talk to their child much more post implant
- Intervention must have a focus on family-child interactions with the interventionist as coach

Instructional Intensity

- Often we see family members and service providers using the same strategies after the child was implanted as before...
- If we are to impact the brain, we have to change the way we provide intervention
- We need to individualize the program for the child's communication, receptive and expressive language system
- Our intervention should teach parents how to interact with their child
- Whereas the child may benefit from intensive therapy, the child must also learn to listen in the home and classroom in ongoing activities.

What Are We Teaching

- Prelinguistic communication is a necessary, but not sufficient condition for auditory development
- Differing responses to familiar speech
- Differing responses to environmental sounds
- Differing responses to music
- Differing responses to speech
- Use of vocalizations as communication
- Differing levels of vocal imitation
- Use of speech to communicate
- Use of intelligible speech

Sample of Inventory

Child's Name: Ashley

Sex: Female

Birthdate: 11/11/1987

Today's Date: 11/5/2007

Directions: Please check the sounds that are in your environment (on the left-hand side). Columns on the right-hand side can be used as an assessment to determine your child's detection and identification of specific sounds.

Sounds in Your Home & Community Environment	Your Child's Response to the Sounds		Sounds to Work On
	Detection	Identification	
Home Environment – Kitchen and Utility Room:			A good majority of the sounds are only identified in context and Ashley following who is doing the task.
X Microwave bell	<input type="checkbox"/>	<input type="checkbox"/>	
X Oven door opening/closing	x	<input type="checkbox"/>	
X Oven/egg timer	<input type="checkbox"/>	<input type="checkbox"/>	
X Oven temperature setting (beeps)	X	X	
X Refrigerator opening/closing	X	X	
X Drawer opening/closing	X	X	
X Dishwasher	<input type="checkbox"/>	<input type="checkbox"/>	
X Toast popping up in toaster	X	X	
X Blender/Food Processor	X	X	

Training focused on Developmental Progression

	Environmental Sounds	Speech Sounds/Words in closed sets	Speech Sounds/Words in open sets
Detection			
Discrimination			
Identification			
Comprehension			

Detection – We must teach the child to detect sounds within routines/activities–

Environmental Sounds

- Motivational Objects
- Sounds associated with favorite activities
- Favorite toys – use sound

Familiar Voices

- General awareness
- Mother's voice
- Responding to name
- Responding to expressions

How Do We Teach?

- Establishing a listening environment
- Coaching families
- Using Auditory-Verbal techniques
- Using natural routines and activities to embed opportunities for listening and communicating

Where Do We Teach?

- 95% of what a child learns in life is learned at home. (Armstrong, 1991),
- Parents are the teachers, not the therapists

Potential Outcomes

- Increasing “access” to locations, settings, activities
- Decreasing behavior that interferes with participation
- Increasing “participation or engagement” within routine
- Building relationships/or skills to develop relationships
- Increasing child’s enjoyment of an activity or routine
- Promoting learning of targeted skills
- Promoting maintenance of newly learned skills
- Promoting generalization of new skill across family members, settings, new routines

Paradigm for Learning

3 Prong Contingency: Antecedent – Behavior – Contingency

■ Antecedents

Quiet environment

FM System in class

Lead with Speech

Support with appropriate support for child with Speech

Touch cue

Object cue

Gesture cue

■ Behavior target and behavioral support

■ Consequence

Maximum reinforcement for response to Speech

Repeat speech to confirm or expand

Auditory Lead

Critical :

- 1. Lead with speech! Wait and Support with Visual/Tactile (touch cues, object cues, gestures, or signs)
- 2. Use an “Auditory Lead”...lead with speech, support with a prompt, end with speech.

Example: (a) Say, “ Get your bib”.....(b) Wait for a response to your verbal...(c) Say, “Get your bib” while pointing, (d) end, “You have your bib!”

Routines and Activities

Social routines

1. Play with objects/constructive
2. Pretend Play
3. Physical play
4. Social games

Caregiver routines

1. Comfort related
2. Dressing related
3. Hygiene related
4. Food related

Woods & Kashinath, 2007

Routines and Activities

■ Community activities

- Library
- YMCA
- Park
- Going to Grandparents
- Fishing with Grand Dad

■ Pre-academic routines

- 1. Reading books-shared reading
- 2. Songs and rhymes
- 3. Computer, TV, video
- 4. Art play
- 5. Early numeracy

Caregiver Interactions Across Routines

- Prepare child for activity
- Announce what and what will happen
- Place materials appropriately (For vision & motor)
- Use special adaptations (FM, Yaker-Tracker)
- Provide opportunities for sound-referent association*
- Provide opportunities to communicate
- Provide opportunities for use of movement strategies
- Encourage sibling and peer interaction
- Provide opportunities for participation
- Provide consistent & individualized prompts/cues*
- Provide appropriate feedback
- Wait for child to respond
- Let the child know the activity is finished

Teaching in Social Interactions

- Critical behaviors are learned in familiar, repetitive routines and activities
 - Build in beginnings, middles, and ends to each routine/activity.
 - Embed multiple opportunities to learn in each routine.
 - Don't hurry through functional routines & activities.
 - Provide maximum consequences for positive behavior.
 - Build more action steps into routine gradually
 - Wait for responses!

Interactor-Child Skills

INTERACTOR/CHILD SKILLS ACROSS ROUTINES

Name: _____ Date: _____ Routine/Activity: _____		Interactor Outcome Rating 0 = Never Occurs 1 = Occurs Occasionally 2 = Occurs Frequently		Child Behaviors X = Consistent/Response / = Inconsistent with prompt O = No Response			
Generic Interactive Skills	Rating	Individual Instructional Conditions	Child Objectives				
1. Prepare child for activity							
2. Announce who and what will happen							
3. Position and support for child							
4. Placement of materials							
5. Special adaptations/Assistive technology							
6. Opportunities to communicate							
7. Opportunities to use movement strategies							
8. Opportunities for participation							
9. Opportunities for sibling/peer interaction							
10. Provide consistent prompts/cues							
11. Provide appropriate feedback							
12. Wait							
13. Termination							
14. Other							
15. Other							
Outcomes	_____	_____	_____	_____	_____	_____	_____
Additional Objectives:		Routine					
		Teaching Strategies: _____					

		Additional Adaptations: _____					