



**Babies Can't Wait
Assistive Technology Assessment Protocol:
Evaluation Guide**

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Instructions for Completing the Evaluation Guide Form:

The **Evaluation Guide** is designed as a tool to be used by the evaluator to look at the components that may affect the success of assistive technology used by the child and facilitators. The guide should be completed by the evaluator and kept on file, should the child's MDT request follow-up information regarding the evaluation.

General Information:

Provide general information about the child, the names of the AT evaluators, and the date and location of the evaluation.

Assessment Direction

The evaluator should consider and check all the assistive technology systems that will be evaluated during this particular evaluation. The evaluator should also check all developmental areas that this evaluation will cover. These items can be determined in part from the **Background Information Form** and additional reports submitted by the child's MDT. It is recommended that **this Assessment Direction** section of the Evaluation Guide be completed prior to planning the evaluation activities for a particular child.

Child Behaviors

Apart from recommending specific devices, there are several factors that may impact the success or failure of the child's use of assistive technology. These characteristics include:

- sensory abilities
- cognitive abilities
- motor abilities
- attention span
- child's focus
- distractibility
- motivation
- humor

The evaluator should check those indicators that were specifically observed during the course of the evaluation. The evaluator should become familiar with these listed indicators to better observe the child during the assessment process.

The first three categories (Sensory, Cognitive, and Motor) are fairly self-explanatory. However, the last five critical factors can make or break a successful evaluation experience for the child.

1. Attention Span:

During the evaluation, the evaluator should vary the length of activities to determine what is an appropriate work time for the child. Although there may be other contributing factors to a child's attention span (e.g., time of day, noises in the environment, etc.), it is helpful to provide the MDT with a "ball park" estimate of activity length. Noting the child's sensory preference can further enhance the child's attention as the child, for example, may attend longer to auditory activities than to visual tasks.

2. Controlling the Child's' Focus:

Working with young children requires the adult to be “one step ahead.” Often, creative prompting by the facilitator can make a marginal activity successful. This section provides an opportunity for the evaluator to record the types of prompting that were helpful during the evaluation process.

3. Distractibility:

This section clarifies the type of distractions that may have impacted the child's attention span and the child's ability to be redirected.

4. Motivation:

The level of motivation by the child often determines the extent to which a child persists during a task. This motivation can be enhanced by adult actions. Again, creatively motivating the child can improve the success of an activity.

5. Humor:

Engaging a child in training activities can be enhanced by utilizing humor. Silly actions by the adult can redirect attention, improve persistence, and draw the child's focus back to the task at hand. Also, humorous activities may provide unique opportunities to see the child “at his/her best.”

Adaptive Access Systems Evaluation

The ***Evaluation Guide*** divides the adaptive access systems into four areas:

Switch systems
Augmentative communication systems
Computer/software/learning aids systems
Adaptive play/environmental control systems

Under each of the systems are three sections:

Features
Presentation
Training Needs

The “Features” section of each system area reviews characteristics that are important to the successful use of the technology by the child. The “Presentation” section addresses how the assistive technology system should be set-up. Finally, the “Training Needs” section looks at training needs necessary for the child to progress. The expectation is that most young children will need to be taught good behaviors in order to use the technology efficiently for learning, communication, and play.

A note about augmentative communication systems...

This section should only be done as part of or in conjunction with a language and/or communication evaluation. This guide is only designed to assist with determining features of the communication system that might be used by the child to produce social-communicative signals, words, or sentences. Information regarding the inclusion of particular words and symbols (e.g., labels, action words, names) should be determined by the multidisciplinary team based on the recommendations from an language and communication evaluation, routines identified by the family, and information from the Early Interventionist.

Babies Can't Wait Standards recommends several communication tools that are approved for assessment purposes:

Communication Tools

MacArthur Communicative Development Inventories. Fenson, L., Dale, P., Reznick, S., Thal, D., Bates, E., Hartung, J., Pethick, S., & Reilly, J. (1993). San Diego, CA: Singular Publishing.

Parent report instruments used to determine child's comprehension and production vocabularies (including single and combined words, gestures, imitations) for children using words and gestures, and production vocabulary for children using word combinations. Article describing the use and results of the instruments: Dale, P. (1991). The validity of a parent report measure of vocabulary and syntax at 24 months. *Journal of Speech and Hearing Research*, 34, 565-571.

Preschool Language Scale - 3. Zimmerman, I. Steiner, V., & Pond, R. (1992). San Antonio, TX: The Psychological Corporation.

An easy to administer measure that examines a child's receptive and expressive skills for children from ages 1 month to 6 years. It includes an articulation screening measure that can also be helpful to identify children in need of further assessment.

Sequenced Inventory of Communicative Development- Revised (SICD). Hedrick, D. Prather, E. & Tobin, A. (1984). Los Angeles, CA: Western Psychological Services.

Assesses children between the ages of 4 months and 4 years in receptive and expressive communication areas of sound awareness and discrimination, comprehension of motor, vocal and verbal expressions. Format provides children opportunity to play with objects, identify pictures and follow directions. Parent report is a scoring option.

Other Tools Useful for Assessment and Program Planning

Assessing Linguistic Behavior (ALB). Olswang, L., Stoel-Gammon, C., Coggins, T., & Carpenter, R. (1987). Seattle, WA: University of Washington Press.

Birth to two observational & administered scales: cognitive antecedents, play, communicative intention, language production and comprehension. Video available of children at different levels of development for first four segments.

Infant-Toddler Language Scale. Rossetti, L. (1990). East Moline, IL: Lingui Systems.

Developed for birth- to 3-year-olds. Includes parent questionnaire & test protocol to gather observed, elicited, and parent report information. Areas assessed include: play, interaction-attachment, gesture, pragmatics, language comprehension and expression. Parent questionnaire includes questions regarding concerns, interaction and communication development, and a vocabulary checklist for comprehension and production.

A note about computer systems...

Babies Can't Wait Fiscal Policies state: "Because a computer system alone is not specifically designed to meet the needs of a child with a disability, and in fact, is beneficial to all children, the purchase of a computer cannot be considered a covered service. However, those input devices and software which make a computer accessible may be. Long-term dependence on technology may need special consideration with regard to the computer system.

Because a computer system alone is not specifically designed to meet the needs of a child with a disability, and in fact, is beneficial to all children, the purchase of a computer cannot be considered a covered service. However, those input devices and software which make a computer accessible may be. Also, a child who cannot access typical materials and will have a long-term dependence on technology may need special consideration with regard to the computer system.

In the event a household already has a home computer system that can be adapted to meet the needs of the child, equipment and software to make the system accessible may be provided through the loan program and education and training may be provided to the parents. Information regarding home technology should be gathered at the initial intake (i.e. type of system with

configuration - Compaq 486 with 8 megs/RAM, 500 meg HD and CD-ROM). Access to computers might otherwise be made available to children through computer labs and other program opportunities.”

As stated above, the assessment for computer technology should only be done as a support for the system that a family may already own. The only exception is if the child cannot access typical learning materials/toys due to physical/sensory disabilities and the family does not currently own useable system.

A note about adaptive play (toys) /environmental control systems...

The last section of the Evaluation Guide examines some miscellaneous areas such as adapted toys, puzzles, and games. When recommending electrical environmental interfaces, be sure to emphasize supervision.

Finally, independent mobility can often be achieved during play by simply converting a family-owned ride-in vehicle. Like the computer, BCW will not purchase the ride-in vehicle as it is a typical toy found on the market, but BCW will purchase the conversion.



**Babies Can't Wait
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Name of Child to be Evaluated: _____
 Age of Child: _____ Date of Birth: _____
 Current Diagnosis (if identified): _____
 Name of Evaluators: _____
 Date of Evaluation: _____ Location: _____

Assessment Direction

NOTE: Please complete this page, prior to conducting the evaluation.

Check all areas for which this evaluation of assistive technology devices will be done:

- adaptive switch systems
- augmentative communication systems
- computer/software/learning aids systems
- adaptive play/environmental control systems

Considering the IFSP Outcomes and Strategies listed in the *Background Information Form*, check below all areas for which assistive technology devices will be evaluated:

- communication aids for optimizing the child's ability to:
 - seek attention from others;
 - request objects or actions in environment;
 - express protest or initiate preferences in situations;
 - greet peers and adults;
 - respond to other's requests for information;
 - seek information through questioning or requesting;
 - use and build new vocabulary/symbolic representations.

- learning aids for optimizing the child's ability to:
 - increase understanding of cause and effect situations;
 - expand discrimination, association, and classification concepts;
 - develop one-to-one correspondence;
 - do more efficient problem-solving;
 - practice and improve memory;
 - use objects functionally.

- self-help aids for optimizing the child's ability to:
 - be more independent in eating, dressing, and toileting;
 - use self-help tools functionally (e.g. cup, eating utensil).

- social interaction aids for optimizing the child's ability to:
 - improve imitation skills from modeling adults and peers;
 - interact with peers and adults within natural environment

- mobility aids for optimizing the child's ability to:
 - be stable;
 - be more independent with communication, learning, and social situations.

- play aids for optimizing the child's ability to:
 - play independently through the use of accessible toys;
 - make choices about play activities;
 - be a contributing member of play situations with peers and adults.

Child Behaviors

During the course of the AT evaluation, note the following characteristics: (Check all that apply.)

Sensory:

- Child was alert to sounds.
- Child directed eyes to visually exciting events.
- Child looked before reaching for objects.
- Child visually followed objects in environment.
- Child visually scanned items within a given situation (e.g. moved eyes from object to object, object to person, person to person).
- Child auditorily scanned environment (e.g. turn head to sounds).

Comments: _____

Cognitive:

- Child anticipated evaluation routines by turning, quieting, looking (e.g. followed modeling, initiated, waited for approval, etc.).
- Child imitated simple actions (e.g. patty cake).
- Child understood the relationship between selected actions and consequences (cause and effect).
- Child linked a series of simple actions (e.g. child puts block in container, child puts lid on container, child shakes container to make noise)

Comments: _____

Motor:

- Child voluntarily reached for objects.
- Child voluntarily grasped appropriate size objects.
- Child held head up without support.
- Child sat unsupported in typical chairs.
- Child moved about independently within evaluation environment.
- Child needed specialized support for appropriate positioning.
- Child physically reacted to being touched, sounds, lights, movement. (e.g. stiffened, turned, relaxed)

Comments: _____

Attention Span:

- Attention matched length of time needed for implementation of activity with assistive technology.
- Length of activities used: _____
- Child's sensory preference for gaining attention included (order preferences):
 - visual
 - auditory
 - tactile
 - movements

Child's Focus:

- Child required external prompting or reinforcement.
- Best external prompting or reinforcement included:
 - verbal prompts (specify): _____
 - physical prompts (specify): _____
 - other (specify): _____

Distractibility:

Describe those areas where the child was distracted from the evaluation activity:

- visual distraction (specify): _____
- auditory distractions (specify): _____
- touching distractions (specify): _____

Could the child be easily redirected? _____yes _____no

Motivation:

- Child explored/investigated spontaneously.
- Child smiled at mastery.
- Child was persistent.
- Child reacted to emotions of others.
- Child was conscious of acts related to adult approval.
- Child attempted to self correct.
- Child recognized evaluator's expectations.

Humor:

- Child smiled, laughed at games.
- Child responded differently to evaluator, family members.
- Child laughed at absurd, silly names (e.g. misname a boy a girl).
- Child laughed at silly events.

Adaptive Access Systems Evaluation

I. Switch Access Systems:**A. Features: (Check all needs that apply.)****Feedback Needs:**

- child needs auditory response to reinforce activation
- child needs visual response to reinforce activation
- child needs tactile response to reinforce activation (vibratory)

Portability:

- child needs multiple switches are going to be needed to accommodate child use in a variety of settings
- a selected switch should travel with child across settings due to customization needs
- child should have available various sizes of plug adapters to work with a variety of items

Mounting Needs:

The identified switch system must be able to be mounted in the following ways:

- on a table or tray surface using suction, velcro, or clamping
- for stabilization purposes
- to maintain a consistent location
- attached to wheelchair using a stable clamping system
- the activation surface of the switch must be angled vertically

Stabilization Requirements:

- child needs table/tray top gripping surface (e.g. rug grip)
- child needs clamping system for angling, adjustment, mounting
- child needs holder for using multiple switches at one time

Switch Access Interface:

- child needs to use an additional switch activation tool (e.g. pointer, stick, block)

Specify: _____

- child needs to use a user-defined timed interface (switch stays on for a defined amount of time)

- child needs to use a latching interface (each hit latches to next choice)
 - child needs the ability to turn a momentary action into an on/off action
 - child needs to use the switch to do simple scanning capabilities (e.g. step, visual, auditory)
- Specify: _____

Switch Sensitivity:

- Child needs activation pressure to be:
- as sensitive as possible
 - increased to require child to push harder
 - does not matter

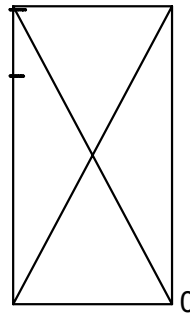
B. Presentation (Check all needs that apply.)

Switch type:

- child needs large switch surface. Approximate size: _____
 - child needs small switch surface. Approximate size: _____
 - child needs alternative shape to typical plate switch. Describe: _____
 - child needs multiple arrangement of switches for choice-making.
- Approximate number: _____ Describe arrangement: _____

Activation Site:

(Circle the areas on the child that he/she can use as possible activation points. Mark "P" for primary areas and "S" for secondary areas.)



Angle of switch:

- Child activates switch best by:
- hitting switch lying flat on table
 - hitting switch vertically positioned
 - pulling switch cord
 - squeezing
 - other: _____

Cords need to be hidden or moved out of reach of child

C. Training Needs (Check all that apply.)

Switch Training Needed:

- child needs training on directed activation
- child needs training on voluntarily releasing switch
- child needs training on using multiple switches (choice making) during an activity
- child needs training on performing repeated hits (latching)
- child needs training on responding to activation cues
- child needs training on developing better anticipation for appropriate hits (e.g. beginning scanning)

II. Augmentative Communication System:

This section should only be done as part of, or in conjunction with, a language and/or communication

evaluation. The BCW AT Assessment Protocol is only designed to assist with determining features of the communication system that might be used by the child to produce social-communicative signals, words, or sentences. Information regarding the inclusion of particular words (e.g., labels, action words, names) should be determined by the multidisciplinary team based on the recommendations from the language and communication evaluation, routines identified by the family, and information from the early intervention special instructor.

Currently, what is the home communication system? (Check all that apply)

- differentiated crying
- body movements or actions
- smiling
- differentiated vocalizations
- pointing
- eye gaze
- AAC device
- other: _____

Is the child currently using an augmentative communication system? yes no
If yes, describe: _____

If the child is using an AAC system, what is **not** working with the current system?

A. Features:

If a display-based system is needed, the new system should display concepts or words using the following: (Check all that apply.)

- real objects
- color coded areas
- color photographs or true-to-life pictures)
- lexicon symbols (Mayer-Johnson Pic symbols, MinSpeak, line drawings)
- textured surfaces
- light-enhanced areas
- auditory output
 - targeted sounds
 - words, phrases

The targeted words/phrases/sentences should include: (Check all categories that should be included in communication system)

- | | |
|---|---|
| <input type="checkbox"/> descriptors (red, hot, big) | <input type="checkbox"/> location (here, there, under, on) |
| <input type="checkbox"/> action (go, want, run, eat, sit) | <input type="checkbox"/> greeting/attention getting (hi, bye) |
| <input type="checkbox"/> possession (my, Daddy (car), mine) | <input type="checkbox"/> exclamatory (uh-oh, oops) |
| <input type="checkbox"/> objects (ball play) | <input type="checkbox"/> recurrence (more) |
| <input type="checkbox"/> disappearance/cessation (all gone, stop) | |
| <input type="checkbox"/> agents (Mommy, Daddy, Spot) | |
| <input type="checkbox"/> other: _____ | |

The communication/message system repertoire could include the following within a single language activity: (Check all that apply)

- single message/single switch - activity specific, situation specific
- choices; multiple switches
- single display; small set of choices (1-4)
- single display; large set of choices (5+)
- branching/multiple displays; small set of choices (1-4)
- branching/multiple displays; large set of choices (5+)

identified size of message activation surface. Approximate size: _____

Please attach a simple drawing for message arrangement on the display if "large sets of choices" or "branching displays" are recommended. Drawing attached: yes no

Miscellaneous Features of communication system:

- should be easy to carry or transported to multiple sites
- the battery life should be adequate for language use. Time needed: _____
- system should be expandable to _____ (number) selections by child
- system should have switch input capabilities
- system should have auditory scanning
- system should have light scanning

The child primary message selection method should be: (Check all that apply.)

- finger/hand/body/pointer
- eye gaze
- directed light
- switch
- single switch
- two switch step scan (e.g. one switch to scan, one switch to select message)
- one switch two operations scan (e.g. hit - start scan, hit again select message)

The communication system output should be: (Check all that apply.)

- speech output
- programmable synthesized speech(training required in recommendations)
- recorded (minimal training)
- picture message visual display
- word message visual display
- animation
- targeted sound
- targeted light

B. Presentation:

Learning a communication system by the child and family can be a very frustrating experience. Under the "Presentation" section the evaluator should review the environments where the communication system is expected to be used. A prioritization should be determined to identify those sites that should be emphasized during the initial learning phase of the child.

Based on the information received from the team and communication/language assessments, the content (language) for the new communication system should be based on the following:
(Check all that apply)

- home activities (routines)
- basic needs (eating, toileting, etc.)
- expressing preferences (choices, likes, dislikes)
- educational routines
- therapy routines
- other: _____

List all environments where communication system should be used (Place an "I" by the sites that should be emphasized during the initial training of the child)

- home
- therapy
- daycare
- center-based program
- church
- community
- other: _____

C. Training Needs

Communication system training needed:

child needs practice using a single message system appropriately to:

- respond
- comment
- initiate
- label
- take turns
- request/question
- demand/get attention
- greet
- describe
- protest

child needs practice using a multiple message system appropriately to:

- respond
- comment
- initiate
- label
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- request/question
- demand/get attention
- greet
- describe
- protest

- child needs work on turning on system
- child needs work on navigating communication system (branching to other displays)
- role models need to be provided in child's environment, using same system.

III. Computer/Software/Learning Aid Systems:

Does the child's family currently have a computer system? yes no

If yes, describe: _____

Can the child access typical learning materials/toys due to physical/sensory disabilities?

yes no. If no, explain why: _____

A. Features

Keyboard Use:

If checked, the child needs the following keyboard adaptations:

visual targets for key activation

finger placement help (e.g. keyguard)

larger/color coded keys to focus for selection (e.g. kids keyboard)

tool to help with activation of keys (e.g. pointer, stick, block)

Touch Tablet Use:

If checked, the child needs the following touch tablet adaptations: (Check all that apply)

- overlays
- real objects
- color coded areas
- color photographs or true-to-life pictures)
- lexicon symbols (Mayer-Johnson Pic symbols, MinSpeak, line drawings)
- textured surfaces
- tool to help with activation of targeted locations (e.g. pointer, stick, block)
- guard for finger placement
- ability to slow down response time for activation (to avoid inappropriate hits)
- physical boundaries around activation sites (raised border)

Mouse Alternative Use: (Check all that apply)

If checked, the child needs the following mouse adaptations:

- button adaptation (e.g. button is activated through an external switch)
- trackball
- placement help (e.g. trackball guard)
- mouse emulation (e.g. TouchWindow)
- ability to slow down cursor on screen
- ability to enlarge cursor
- gripping material to stabilize trackball (keeping base from moving)

Miscellaneous:

If checked, the child needs the following adaptations:

- Simple switch-use interface box
- Software directed switch interface box (Ke:nx)
- sound adjusting via external speakers
- three dimensional screen targets (quick tac, color forms)
- output interface for toy activation
- communication device input connectors
- moisture guard
- oversized monitor

Mountings:

If checked, the child needs the following adaptations:

- computer mount for tray, table. Specify: _____
- monitor/screen mount. Specify: _____
- trackball mount. Specify: _____
- touch tablet mount. Specify: _____

B. Presentation:

Software:

Much early childhood software exists on the market today and much of that software can be used by young children with disabilities. Through the use of utilities, adaptations can be made to access most software on both the Macintosh and PC platforms. However, it requires that caregivers/providers learn and use utility software products. If the MDT does not learn to customize the computer environment for the child, recommended input systems and utility software may not

be appropriate for recommendation.

If checked, the child needs the following types of software:

- keyboard-driven software, simple key presses (e.g. spacebar, return, number keys)
- mouse-drive software, large clicking areas (e.g. McGee)
- single action software (cause/effect)
- switch adaptable software (either designed for switches or used with switch utility)
- multiple selection (e.g. choices) (software provides simple 2-4 choices for activities)
- auditory rich software (e.g. music, familiar songs)
- easy navigation (e.g. go, stop)
- talking software
- customizable to:
 - limit choices
 - slow down response time
 - add prompting
 - enlarging graphics
 - other: _____

Utility Software:

Identified persons are available to teach use of selected utility software: yes no
If yes, who: _____

Child's computer system requires the following:

- utilities for input access (e.g. Overlay Maker, Ke:nx, PC Switch Interface Software, Sticky Keys)
- utilities for altering screen presentation (cursor enlarged, screen enlarging) (e.g. Access DOS, Close View, Biggy Cursor)
- switch training software
- communication software
- communication programming or overlay development software
- authoring software (e.g. HyperStudio, IntelliPics)

C. Training Needed: (Check all that apply.)

- child needs practice using (Child should become a multiple input user):
 - keyboard
 - touch tablet
 - touch window
 - mouse
 - trackball
- child needs to learn mouse/trackball behaviors (point, click)
- child needs practice responding to prompting signals from computer
- child needs to learn to hit single keys on keyboard
- child needs to learn navigate a program independently

Learning Aids:

A. Features:

Material/Equipment Adaptations:

If checked, the child needs the following adaptations: (Check all that apply.)

- stable surface for materials (e.g. rug grip)
- built up grasping surfaces
- stiff pages and separators for pages (e.g. "page fluffers")
- interface module for switch activation of electrical appliances (record players, tape recorders, slide projector)
- on/off modifications with switch and battery interrupters
- moisture guards
- other: _____

B. Presentation:

If checked, the child needs the following presentation adaptations:

- back-lighted surface to accentuate materials/toys
- sensory prompts;
- textured
- differentiated sounds
- vibration
- color-coded
- angled table surface
- physical boundaries (e.g. fences, raised edges)
- other: _____

C. Training Needs: (Check all that apply.)

- child needs work on object manipulation
- child needs work on releasing
- child needs work on grasping
- child needs alternative positions for learning activities:
 - side lying
 - sitting propped
 - on floor
 - in special chair or prone stander
 - in caregiver's lap
 - other: _____

IV. Adaptive Play (Toys) /Environmental Control systems:

A. Features:

If checked, the child needs the following adaptations: (Check all that apply)

- non-slip, releasing surface (e.g. rug grip, velcro)
- built up grasping surfaces
- interface module for switch activation of electrical appliances (record players, tape recorders, slide projector)
- on/off modifications with switch and battery interrupters for battery-powered items
- washable surfaces
- attention getting signal (buzzer, bell)
- mobility - interface for converting family-owned ride-in vehicles (e.g. Power Wheels, Barbie Jeep, etc.) to self-initiated switch access.

___ other: _____

B. Presentation:

If checked, the child needs the following presentation adaptations:

___ back-lighted surface to accentuate materials

___ sensory prompts;

___ textured

___ differentiated sounds

___ vibration

___ color-coded

___ raised play surface

___ physical boundaries (e.g. fences, raised edges)

___ tethered toys to table or play surface

___ multiple seating arrangements that include:

___ portable seating

___ floor level seating

___ table seating

___ customizable seating for situation (wrapped phone books, tri wall)

___ other: _____

C. Training Needs:

- child needs work on object manipulation
- child needs work on releasing
- child needs work on grasping
- body positions available for play activities:
 - side lying
 - sitting propped
 - on floor
 - in special chair or prone stander
 - in caregiver's lap
 - other: _____