

# Assistive Technology For Infants and Toddlers



## Ground Rules

- Cell phones should be turned off or on vibrate.
- Limit side bars as it can be a distraction to the group.
- If you have questions related to the material, please put questions on the cards provided. We will have times in the agenda set for questions.

## Expected Outcomes of Training

Participants will:

- Understand the need to consider appropriate modifications and adaptations as a component of the assessment process.
- Understand how assistive technology can support a child's participation in daily family activities and routines.

## Why Use Assistive Technology?

Research illustrates that infants and toddlers who use assistive technology early in their lives have increased skills and abilities to participate in the daily activities and routines of their families

**Ideas To Share** 

### Adapting Shape Sorter For Children With Vision Impairment

A battery-powered push on/off light was placed in the bottom of a shape sorter toy. The light was turned on and the top of the shape sorter was put in place. The light glowed through the openings making it easier for the child to place the shapes in the correct opening.

Idea submitted by: Liz Whitley, Ohio

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These ideas have been submitted by early intervention providers across the country and do not necessarily reflect the views of the WV Research Institute and its staff and associated members.

## Assistive Technology Basics


- Practitioners must be knowledgeable of typical/atypical infant and toddler development
- Practitioners must be knowledgeable in how to use everyday household items and low tech devices to modify and adapt materials and activities
- Practitioners must know when additional assessment is needed to evaluate a child's need for more high tech devices and equipment

## Infants and Toddlers Have Unique Learning Needs

Most learning is not the result of "targeted goals" – children learn a great deal incidentally – from watching, doing, experimenting, listening, and feeling

## Infants and Toddlers Have Unique Learning Needs

- The young child's development is integrated across various developmental domains
- Skill development is easier and more rapid when done within the context where the skills will be used



**Ideas To Share** **TECH**

### Toy to Encourage Two-Handed Play

To encourage two-handed play, try using a large deep shiny stainless steel mixing bowl. Place strings of shiny beads and bright plastic balls in the bowl. Model how to put the assorted objects into the bowl and play. Activities such as tilting the bowl, watching the objects slide around the bowl, and trying to catch the items, motivate the child to use both hands to play.

Idea submitted by: Leona Pang, Hawaii  
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## Benefits of AT for Young Children

- In your small groups, list all the benefits you feel infants and toddlers receive when we are able to modify or adapt their environment so they may more successfully participate.

## Benefits of AT for Young Children

Helps infants/toddlers to:

- Participate more fully in daily family activities and routines like helping mommy cook
- Play successfully with toys and favorite objects with big brother
- Communicate better their wants, needs and ideas to family members and others



**Ideas To Share** **TECH**

### Dial-Up Fun!

Here's a way to use the dial scanner to help children make choices during play. Hook up a very light-touch switch to the dial scanner. Prep the child's arm to enable easy access. Use toys such as a Mr. Potato Head with pieces. Attach piece with Velcro onto the dial Plexiglas. You can add pieces as choice making advances. To encourage better scanning you can alternate positioning of the pieces onto the Plexiglas.

Idea submitted by: Lisa Ing, Hawaii  
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### Benefits of AT for Young Children

- Move more independently in their environment so they can explore
- Make choices and solve problems when they arise at home and in the community
- Play meaningfully with their family and friends

### Which Children Benefit from AT?

- Children who have motor challenges
- Children who have difficulty expressing themselves
- Children with sensory issues
- Children with cognitive delays
- Children who have limited social skills

### Families Are at the Heart

Young children learn best within ongoing, consistent relationships with a few significant caregivers.

Families and significant caregivers know their children the best and can provide a wealth of information for assistive technology considerations.

**Ideas To Share**

**Low-Tech Stimulation Basket**

A laundry basket was placed on it's side and non-breakable stick-on mirrors purchased at an auto shop were attached to the bottom of the basket. Several toys and noisemakers were suspended using yarn and elastic bands. The toys are easily attached to the basket because of the holes in the basket. The family added the Christmas lights which really inspired the stimulation basket for their child who's vision skills are impaired.

Idea submitted by: Evelyn Howell, Michigan  
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### Benefits of AT for Families

- In your small groups, list all the benefits you feel families receive when we are able to modify or adapt their child's activities or environment so they may more successfully participate.

### Benefits of AT for Families

- AT helps families see the potential in their child. Rather than waiting for skills to develop, children can participate now.
- The child can share some of the same childhood experiences that are valuable to all children and families

**Ideas To Share** 




**Chair for Beach or Bath**


A plastic reclining lounge chair from K-Mart for \$9.99 can be used as a bathing chair or chair to play in a baby pool or sandbox. The chair works great, is inexpensive and less cumbersome to carry than a heavy bath chair. The child is supported, and can play with other children while seated. If a belt is needed, there are openings to run a hip belt or shoulder straps already designed on the chair.

Idea submitted by: Marcy Wells, Ohio

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**Ideas To Share** 



**Bubbles and BIG Mack Switch Encourage Interaction**

It can be challenging to find fun ways for siblings to interact when one child can not talk. The message "Blow bubbles" was recorded on a BIG Mack switch and the switch was positioned on the child's lawn chair. Whenever the child touched the switch, he was able to tell his brother to blow more bubbles which provided great opportunities for both children to pop them!

Idea submitted by: Liz Whitley, Ohio

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Let's Take a Break!


- The Laws that Address AT
- Individuals with Disabilities Education Act
  - Assistive Technology Act of 2004
  - Rehabilitation Act – Section 504
  - Americans with Disabilities Act

What is an Assistive Technology Device?

"Assistive technology device means any item, piece of equipment or product system whether acquired commercially off the shelf, modified or customized, that is used to increase, maintain, or improve the functional capabilities of children with disabilities."

34 CFR 300.5

**Ideas To Share** 



**Pictures Help Communication at Picnic**

Family picnics were filled with tantrums until a choice board was added to help the child communicate. The choice board was attached to a wrist bracelet to make it portable. Pictures of foods and activities at the picnic were taught to the child at home. During the picnic, the child was able to indicate his food choices and communicate about the activities.

Idea submitted by: Kim Niles, New Hampshire

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### What Are Assistive Technology Services?

"Assistive technology service means any service that directly assists an individual with a disability in the selection, acquisition or use of an assistive technology device . . ."

34 CFR 300.6

### West Virginia Service Definitions

- Assistive technology is a component of each Part C service
- Assistive technology assessment and selection should include all relevant team members
- Decisions are made through team problem solving, discussion and consensus

### What AT is Not!

- Handing a family a catalog and asking them what they would like
- Writing an IFSP outcome for the sole reason of getting AT
- Selecting high tech equipment/devices prior to trying low tech equipment/devices

### It's All in the Assessment

- Takes place over time
- Identifies child's unique needs to be able to participate in daily routines and learning activities
- Identifies modifications or adaptations that can help the child participate

### What Developmental Skills Are Imbedded in the Routines

- Visual and auditory attending as well as joint attention
- Tactile awareness
- Decision making
- Cause and effect
- Integrating toys with the language concepts

### What Developmental Skills Are Imbedded in the Routines

- Object permanence
- Non-directed and independent play to encourage concept development
- Movement and exploration of the environment
- Turn-taking
- Literacy and Numeracy skills

### As a Part of the Assessment Process:

- Know the disability
- Learn what the child likes and would most likely want to do
- Focus on functional situations to support generalization
- Consider the variety of situations where skills will be used and plan for differences ahead of time

### Assistive Technology As Part of the Assessment Process

- How can the child achieve more independence and control over his/her environment?
- How will assistive technology help the child achieve developmental and functional outcomes on the IFSP?
- How can this device fit into the family's lifestyle?

### Assistive Technology As Part of the Assessment Process

- What are the environmental considerations necessary for the use of the assistive technology at home, in the community and in other natural environments in which the child may function?

### Involving Families in the Process

- Focus on family concerns, priorities and resources
- Recognize, respect and validate each family's values and cultural customs
- Remember that families are the primary decision-makers for their child

### Consider Joanna

Because her back was tender from surgical repair, Joanna, a newborn with spina bifida cried in pain if her diaper was changed while she lay on her back. Professionals who wanted to help encouraged her mother to change her while she was on her tummy to avoid the pain to her back.

### Joanna's Story

Joanna's mother thought it was important that the baby be on her back so the two could have fun during diaper changes, talking, making faces, and playing. She thought it was important to make their time together as typical of everyday baby-mommy time as possible.

She decided there had to be a way to make Joanna's changing time more comfortable. She found the way. She bought a thick foam pad used for upholstery, cut it the size of her changing table, cut a hole in the foam right where Joanna's surgical repair would be, and covered the foam pad with a cleanable vinyl fabric.

Joanna never cried at changing time again.

Sharing Your Ideas

LUNCH

Let's return in one hour!

Gathering Information About Routines and Activities


- What would the family like the child or family to be able to do?
  - Sit safely during bath time
  - Feed himself at restaurants
  - Play with friends in the nursery at church
  - Help make choices of foods at the grocery store
  - Share story time with grandparents
  - Help with the family gardening time



Gathering Information About Routines and Activities

- The team should also be sharing and collecting information about:
  - What's the child's current level of skills? (how does he/she move and communicate, child's preferences, dislikes, sensory issues, comprehension, independence, interaction, interests/motivators )

**Bathing Mealttime Shopping**  
**Visiting Grandma Gardening**  
**Playing with Friends**



**Make a Book That Will Interest Your Child**

Some children need a little more encouragement to enjoy looking at books. Try making a book that contains pictures of people and things that your child really likes and enjoys. Books can be made using thin cardboard and wrapping the pages in metallic silver foil-like paper. Take digital photos of the child's favorite things and family members and mounted them on brightly colored card stock, one picture to a page. You can add cut-out pieces of sponge in between the pages to make turning the pages easier. Most children will be drawn to pictures of favorite things on bright pages, and then might find other books interesting as well.



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## Gathering Information About Routines and Activities

Are there health and safety considerations?

Positioning	Cleanliness
Temperatures	Hazards removed
Wound/site care	Child safe toys/utensils
Allergies	Choking
Aspiration	
Level of adult supervision required	

**Noodle Protection**


This child had difficulty sitting in a shopping cart due to myoclonic jerks. A swimming pool noodle was cut into sections to cover metal areas of shopping cart. The foam noodle pieces were light weight and easy to carry and protected the child from injuring themselves on the shopping trip.

Idea submitted by: Hope Lewis, Florida  
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## Gathering Information About Routines and Activities

What adaptations or accommodations are used now?





**Easy to Grasp toy**

Child has limited range of motion and requires stimulating objects that motivate her to reach out and grasp. A homemade bottle opener was filled with pingpong and balls and ball with balls (soft toy). The ball was then suspended in place by plastic string strung onto a PVC frame. The child was interested in the two items as she attempted to spin them as well as move them horizontally. This motivated her to use her fingers, hands, and arms.

Idea submitted by: Jan Miyashiro, Kansas  
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## Gathering Information About Routines and Activities

- How can the child achieve more independence and control over the environment?
  - Bathing a child with a hearing impairment
  - Mealtime for a child with vision impairment
  - Playing for a child with cognitive impairment
  - Shopping for a child with behavior challenges
  - Visiting for a child with communication difficulties
  - Gardening with a child with motor impairments

### Gathering Information About Routines and Activities

- Things to Consider
  - What is not being accomplished that could be?
  - How can the strategy fit into the family's lifestyle and have optimum impact?
  - If we do not adapt or modify the routine, how can the child participate in activities?

**Ideas To Share** **TECH**

**Velcro Choice Board**

Need an easy board for pictures or symbols? Try using a scrap of carpet. Laminate the photos or picture symbols of favorite toys, family members or food items to be used. Place the hook side Velcro on back of each picture/symbol. The Velcro attaches easily to the carpet and can be taken anywhere. Pictures could also be placed in different rooms or on the cupboards where the desired pictured object can be found. If sign is being used, a picture of the sign next to the card could help the parents remember the sign.

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### The Selection Process

- No technology
- Low technology
- High technology

### Considerations to Increase the Successful Use of AT

- Motivation
- Active Participation
- Multiple Modalities
- Natural Contexts

### So You Have the AT – Now What?

- Select activities
  - Prompts (verbal and/or physical)
  - Novel balanced with known
  - What variety of communication opportunities are imbedded in the activity
  - Concrete to abstract
  - Action oriented play
- Keep questions and extraneous language to a minimum

### So You Have the AT – Now What?

- Delay processing time
- Reduce motor demands
- Minimize random activations
- Recognize sensory needs and issues
- Natural multiple learning opportunities
- Child directed, allowing them to withdraw and center and continue at his own pace
- Self directed repetition

### Reasons Why Families Might Not Use the AT

- In your small groups, list the reasons why you believe that families may not use AT after they receive it or it is abandoned after time.

### Reasons Why Families Might Not Use the AT

- The device worked but it was impractical or inconvenient to use
- After obtaining the device there were parts of activities that became difficult and the child was not able to participate in things they had before
- The device did not do what it was supposed to

### Reasons Why Families Might Not Use the AT


- It couldn't be modified or upgraded to meet changing needs
- It was too cumbersome or unattractive
- Functional needs of the user changed
- Medical intervention made it unusable
- Use of the technology increased medical or safety risks.

Let's take a quick break!

### Assistive Technology Categories

□ Aids for Daily Living	□ Environmental Control
□ Assistive Listening	□ Visual Aids
□ Augmentative Communication	□ Assistive Toys and Switches
□ Mobility	□ Positioning

### Daily Living



- Pediatric 6 Stage Feeding System

### Assistive Listening

- FM System



### Augmentive Communication

- BIGMack



### Mobility

- Wagon for Two



### Environmental Controls

- Power Link 3



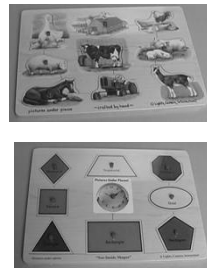
### Visual Aides

- Mini Light Box



### Assistive Toys and Switches

- Adapted Puzzles





### Assistive Technology and the Transition Process

Equipment placed on long term loan is to be returned to the WV Birth to Three State system when:

- 1) The child no longer needs the equipment,
- 2) The child turns three (unless identified as ongoing need), or
- 3) The child moves to another state.

### AT and Transition Planning

- AT should be discussed during face-to-face transition planning meetings.
- Families may need information about how/where to access AT after transitioning from WV BTT.



Thank you for  
your dedication  
to children and  
families!