

Intervention with Infants, Toddlers, and Preschoolers with ASD

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- We owe a great debt to the families who have participated in our research and have consented for us to use their videos for presentation purposes. *Please respect them and do not take pictures or make recordings of these videos or otherwise use them outside of your participation in this workshop*



Learning Outcomes

Participants will be able to:

1. Describe pivotal skills important to address in young children with ASD.
2. Describe strategies for targeting early social communicative and play skills in this population.
3. Discuss strategies for coaching caregivers and teachers in implementing interventions for this population.



Focus on Two Projects

(1) The Early Development Project (EDP: for infants & toddlers): Providing a Parent-Mediated Intervention for Infants & Toddlers At-Risk for Autism Spectrum Disorder (Watson, Crais, & Baranek)

(2) Advancing Social-Communication and Play: ASAP: for preschoolers (Boyd, Watson, Baranek, & Crais)

*Both funded through IES

Early Development Project: Used Adapted Responsive Teaching

(Mahoney & MacDonald, 2007)

- Relationship focused (developmental and social-emotional needs): enhancing parent responsiveness
- Targets both social communication and sensory-regulatory behaviors
- Encourages parents to use specific strategies to engage child in interaction and encourage more sophisticated responses from the child
- Home-based with coaching

(Baranek et al., 2015; Watson et al., 2017)

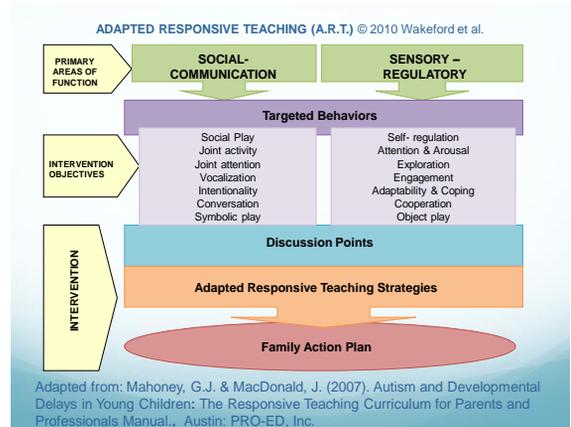


ART Process



- Interview families about family routines
- Identify pivotal behaviors for intervention
- Parent education about dimensions of "responsiveness" and strategies for responsive interactions
- ART: Coach parents in use of responsive strategies to support child's development/use of pivotal behaviors
- Monitor progress with families = make changes

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Content of Intervention

- Derived from
 - Evidence for pivotal skills
 - Developmental sequence
 - Functional needs of child
 - Family priorities
- Will vary based on
 - Assessment results of individual child
 - Assumptions/values of family/interventionists
 - Potential strategies



Pivotal Skills

“Adults cannot directly teach children all the skills needed for adult life. Appropriate learning depends on the child himself or herself taking on the responsibility for learning throughout the day by imitating others, engaging others, and exploring the potential of the various environments.”

Rogers and Vismara (2008)



Pivotal Skills

Definition: Skills that will lead a child to develop or use many other skills

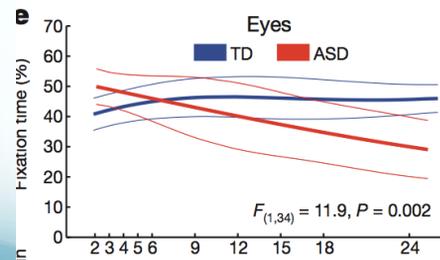
Examples of Skills related to Social-Communication & Language Outcomes

- Attending to people and objects in the environment
- Imitation
- Intentional nonverbal communication
- Shared attention/joint engagement
- Joint attention
- Functional and symbolic (pretend) play



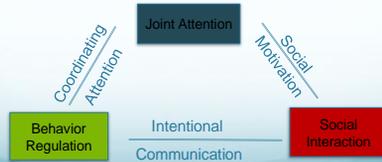
Attention to Eyes Across First two Years

Jones & Klin (2013)



Early Communicative Functions

- ▶ **Social Interaction:** Communicating to engage with a person (e.g., waving, high five, peek-a-boo)
- ▶ **Behavior Regulation:** Communicating to gain access to something, someone, or some action; or to protest (e.g., reach, give, point)
- ▶ **Joint Attention:** Communicating to share interest in an object or an event (e.g. show, give, point)



Attending to People and Objects in the Environment

- Categories of sensory features: hyper-responsiveness, hypo-responsiveness, sensory seeking; also “enhanced perception”
- More likely to show “mixed pattern” of both extreme hypo-responsiveness and extreme hyper-responsiveness
- More extreme features of hyper- and hypo-responsiveness and sensory seeking than children with other DD

(Baranek et al., 2006; Rogers et al., 2003; Watson et al. 2011; Wiggins et al., 2009)



Attending to People and Objects in the Environment

- Hypo-responsiveness seems most specific to ASD
- Greater hypo-responsiveness is correlated with lower communication/language skills
- Attending to stimuli (people & objects) is necessary in order to interact with & learn from them

(Baranek et al., 2006; Rogers et al., 2003; Watson et al., 2011; Wiggins et al., 2009)



Imitation

- Allows for reciprocal interactions with others
- Serves as strategy for early language comprehension
- Strategy for learning new behaviors—sounds, gestures, actions on objects, words, etc.
- Developmentally, children start with imitating movements, then sounds, then movement + sound



Intentional Nonverbal Communication

- Communication is a transactional process
- Adults are more likely to respond to children's intentional communication
- Adults are more likely to “linguistically map” the child's intentional communication
- Linguistic mapping leads to improved language learning by the child
- Responding “as if” intentional builds process to intentional



Shared Attention/Joint Engagement

- ▶ Transactional state: child & partner contribute
- ▶ Gives child opportunities to observe/imitate partner's actions on objects of mutual interest
- ▶ Gives child opportunities to hear language about objects & events of interest
- ▶ Gives child opportunities to initiate without having to seek out partner
- ▶ More satisfying to communication partner when engagement can be maintained



Joint Attention (JA)

- Includes responding to and initiating JA
- Responding to JA: child becomes less dependent on communication partner to always follow child's lead— benefit from more varied interactions and language input
- Initiating JA: elicits responses from others; gets others to talk about child's interests



Principles to Use in Natural Environments

- ▶ Follow the child's lead (but set up the environment for maximum interest)
- ▶ Maintain motivation & engagement
 - Recommendation is 25 hours of *active engagement* with people & materials/objects per week (NRC, 2001)
- ▶ Give many opportunities for learning
- ▶ Embed activities in daily routines so family members can continue to do them



Follow the Child's Lead

- Notice what the child is paying attention to
- Play with the same toy or a related toy
- Imitate what the child is doing
- Expand what the child is doing
- Comment about what the child is paying attention to
- Consistently respond to child's communications



Maintain Motivation and Engagement

- Play face-to-face games without toys
- Use games, toys, & other materials that interest the child (and siblings)
- Provide natural reinforcements
- Find the "just right" amount of challenge
- Intermingle practice on previously mastered skills with introduction of new skills
- Have fun and be a fun partner



Give Many Opportunities for Learning

- ▶ One-on-one time for child and responsive adult
- ▶ Comment on child's interests
- ▶ "Speak" the child's intentions
- ▶ Use simple language ("Say one, add one")
- ▶ Establish a routine; interrupt the expected chain of events
- ▶ Use expectant wait time
- ▶ Expand on child's play by modeling new play behaviors
- ▶ Change the environment—e.g., rotate toys or other materials in and out



Coaching Caregivers

- As SLPs we will not be spending 25 hours/week with the child
- Serving as a coach for parents, siblings, child care providers, and other caregivers is one route to attaining the desired intensity of active engagement



Strategies for Coaching (1)

- Build relationship with caregivers
- Listen to caregivers & be responsive to their concerns & joys
- Ask caregivers for specific information—e.g., use of strategies since last visit, caregiver's impression of child progress
- Point out examples of key behaviors as you observe them in the child
- Demonstrate/model intervention strategies for caregivers as you cover key points



Strategies for Coaching (2)

- Get caregivers to try out intervention strategies while you are there
- Comment on positive aspects of the caregiver-child interaction
- Get feedback from caregivers on how they did
- Give suggestions/model alternative strategies
- Make a specific plan with caregivers for strategies they will use and routines in which they can use them
- Offer other resources or recommendations as appropriate
- Leave written notes



Let's Meet Mitch: A Toddler With Symptoms of ASD

- Screened "at risk" for ASD on the First Year Inventory at 12 months
- Lives with mother and father
- An only child
- In a home daycare
- 14 months old at time of initial assessment

Mitch's Parents' Concerns and Priorities

- Receptive and expressive language
- Transitions to and from childcare – tantrums
- Eating out – tantrums, hard to calm, disruptive
- Making choices throughout day (e.g., what he wants to eat)
- Patience, ability to wait
- Plays with same objects over and over, hard to move him to new toy

Activity: Observations of Mitch

- Refer to pivotal skills in handout
- Think about his behaviors in terms of each pivotal skill you may observe (or not)
- Think about how many different examples of pivotal skills you observed
- Use the first page of "Mitch" handout and write down your observations in terms of Mitch's strengths and challenges in pivotal skills

Activity: Choosing Intervention Goals

- Refer to pivotal skills in handout
- Use page 2 of the "Mitch" handout
- Consider his family's concerns and priorities
- Come up with 2-3 goals appropriate for Mitch—we will discuss suggested goals in the larger group

Activity: Intervention Goals for Mitch

- 1.
- 2.
- 3.

Plan for a Single Session With Parents or Childcare Provider

- How will you open the session? (relationship-building)
- How will you explain the pivotal behavior and strategy of focus for this session?
- How will you demonstrate the strategy to promote that pivotal behavior in the home/care center context?
- How will you get the parent(s)/childcare provider to try out the strategy?
- How will you ask for feedback from the parent(s)/childcare provider?
- How will you work with the parent(s)/childcare provider to plan for using the strategy in the time prior to your next session?

Activity: Plan a Coaching Session for Mitch's Parents or Childcare Provider

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Intervention Considerations for Toddlers at-Risk for or with ASD

- ▶ Younger the child = less confident we are about stability of symptoms & diagnosis
- ▶ Empirical evidence on ASD interventions for toddlers just emerging & not clear what's "best"
- ▶ EBP with toddlers at-risk or with ASD relies on conceptual understanding, professional expertise, & family wisdom & values
- ▶ Language of IDEA favors at least a trial of EI in natural environments
- ▶ Responsibility to monitor progress & use data as a source of evidence for decisions



Questions and Discussion



AN INTERVENTION PROGRAM FOR
PRESCHOOLERS WITH AUTISM

ASAP

Advancing Social-Communication
and Play



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DRAFT—DO NOT DISTRIBUTE

This manual is a work in progress and there are proprietary rights regarding its contents.

This intervention manual is designed to be used by related-service providers and teachers who work with preschool-age children with autism in public school settings.

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Advancing Social-Communication and Play (ASAP) = Watson & Boyd

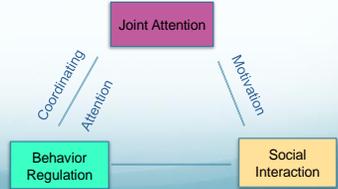
- Supplemental program designed for public preschools serving students with ASD
- Adapted from work of Kasari et al., 2006, 2008
- One-to-one and group contexts
- Works with all member of team (e.g., teachers, SLPs, OTs, PTs)
- Tries to change view of play as “means”, but not “goal”. Views play as GOAL.
- Goals = social communication AND play

(Dykstra et al., 2012; Wilson et al., 2012)



Early Functions of Communication

- ▶ **Social Interaction:** Communicating to engage with a person
- ▶ **Behavior Regulation:** Communicating to gain access to something, someone, or some action
- ▶ **Joint Attention:** Communicating to share interest in an object or an event



Importance of Communication Goals

- ▶ Prelinguistic communication influences adult interactions
 - Intentional prelinguistic communication by child → adult “puts into words” the child’s communicative intent
- ▶ Prelinguistic communication predicts later outcomes
 - Imitating sounds, range of sounds → expressive language
 - Behavior regulation communication → expressive language
 - Responding to joint attention → receptive & expressive vocabulary, receptive language
 - Joint attention → pretend play
- ▶ Joint attention intervention → better later language



Sequence of Objectives for Social-Communication

Table 1: Skill Levels Across Three Categories of Social-Communication

SKILL LEVELS	CATEGORIES		
	Social Interaction Age of Emergence: 1;7 months	Requesting Age of Emergence: 2;3 months	Joint Attention Age of Emergence: 1;10 months
S11. While playing face to face games, physical activities, or routines, child watches the adult closely.			
S12. While playing face to face games, physical activities, or routines, after a brief pause child shows wanting the game to continue (e.g., looks, moves body to make motion of the game, touches the partner, vocalizes).			
S13. Child plays back-and-forth games with objects or actions (e.g., exchanges objects back-and-forth; back-and-forth game of matching activities).	RQ1. Child reaches for out of reach object to show wanting the object		
S14. Child initiates familiar games or routines (i.e., run right after an adult does the action).	RQ2. Child gives objects or pulls person's hand toward objects to show request for help		
S15. Child expands games or routines (e.g., include a third person in the game routine; Switches roles with other person (e.g., finds versus hides)).	RQ3. Child looks at nearby object when another person points to the objects as a request (i.e., objects that are beyond reach).		J1A. Child responds to another person giving objects just to share interest in the objects
S16. Child combines gesture and/or vocalization/verbalization with looking at person to show wanting game to continue.	RQ4. Child points to nearby objects to request them		J1Aa. Child gives objects just to share interest in objects with another person
	RQ5. Child looks at distant objects when another person points to the objects as a request (i.e., objects that are beyond reach).		J1Ab. Child responds to another person showing objects just to share interest in the object
	RQ6. Child points to more distant objects to request them (i.e., objects that are beyond reach).		J1Ac. Child shows objects just to share interest in the objects with another person
	RQ7. Child combines gesture and/or vocalization/verbalization with looking at person to request		J1Ad. Child follows a point to nearby objects/events just to share interest in objects/events
			J1Ae. Child follows a point to more distant objects/events just to share interest in objects/events with another person
			J1Af. Child follows gaze of another person to objects/events just to share interest
			J1Ag. Child combines gesture and/or vocalization/verbalization with looking at person just to share interest in an object/event

Social Interaction Levels

- **S11.** Watches the adult closely during games or routines
- **S12.** Child shows wanting the game to continue after a brief pause
- **S13.** Child plays back and forth games with objects or actions
- **S14.** Child initiates familiar games or routines
- **S15.** Child expands games or routines



Requesting Levels

- **RQ1.** Child reaches for out of reach object to show wanting the object
- **RQ2.** Child gives objects or pulls person’s hand toward objects to show request for help
- **RQ3.** Child looks at nearby objects when another person points to the objects as a request
- **RQ4.** Child points to nearby objects to request them
- **RQ5.** Child looks at distant objects when another person points to the objects as a request
- **RQ6.** Child points to more distant objects to request them
- **RQ7.** Child combines gesture and/or vocalization/verbalization with looking at person to request



Relational Play Levels

- **R1.** Takes objects/toys apart (e.g., detaches large pop beads, removes lid from container)
- **R2.** Puts objects/toys together in simple ways (e.g., drops blocks in cup, puts lid on container)
- **R3.** Puts objects/toys together in more complex combinations or specific ways (e.g., bangs sticks on drum, strings beads, sorts shapes into a shape sorter)

Functional and Symbolic Play

- More conventional play → adults more likely to follow child's lead
- More varied functional and symbolic play → more varied language children hear about their play
- Functional & symbolic play → adults and other children are more likely to engage with child



Functional Play Levels

- ▶ **F1.** Child plays with toys in functional or "simple pretend" ways
- ▶ **F2.** Child plays with toys in simple pretend ways directed to self
- ▶ **F3.** Child includes a doll/action figure in simple pretend play with toys
- ▶ **F4.** Child includes other people in simple pretend play with toys
- ▶ **F5.** Child uses same action in simple pretend play with two different people or dolls/figures

Symbolic Play

- ▶ **S1.** Child makes doll/figure move or do things as if alive
- ▶ **S2.** Child does 2 different pretend actions, one right after another, with the same toy
- ▶ **S3.** Child does 3 or more different pretend actions, one right after another, with the same toy
- ▶ **S4.** Child uses one toy/object to represent or stand for other
- ▶ **S5.** Child uses pretend qualities in play
- ▶ **S6.** Child uses pretend objects in play
- ▶ **S7.** Child takes on a pretend role in play that other people direct
- ▶ **S8.** Child suggests pretend roles in play to self or others
- ▶ **S9.** Child expands pretend play into (a) new roles, (b) new themes, and/or (c) fantasy roles

Summary

- For young children with ASD, targeting pivotal behaviors promotes better communication and language outcomes
- Varied programs and strategies promote pivotal skills for communication and language
- Not all programs focus equally on each pivotal skill
- Not all programs/strategies have demonstrated efficacy for ALL pivotal skills or for ALL children
- Research on content of effective communication interventions is still in its infancy
- Research on interventions for infants & toddlers with or at-risk for ASD is "neonatal"

Questions and Discussion

