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Evidence-Based Parent Training Strategies for Young Children with ASD

Patricia A. Prelock, PhD, CCC-SLP, BCS-CL

Moderated by:
Amy Hansen, MA, CCC-SLP, Managing Editor, SpeechPathology.com

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Evidence-Based Parent Training Strategies for Young Children with ASD

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DISCLOSURE

Patricia A. Prelock

Financial: Dr. Prelock receives royalties from the books she has published on ASD and receives honoraria for giving talks on this topic. She is not receiving an honorarium for today's talk as it is being sponsored by the Vermont Child Health Improvement Program (VCHIP) and the Vermont Department of Health grant awarded to Department of Communication Sciences and Disorders at the University of Vermont. Dr. Prelock is also co-owner of Theory of Mind Inventory LLC and received royalties for the sales associated with the company.

Nonfinancial: Dr. Prelock is an executive board member for the College Steps Program which supports individuals with disabilities, including those with ASD to access a secondary education experience.

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Learning Objectives . . .

- Describe at least 3 evidence-based parent training strategies that support social communication in young children with ASD.
- Explain ways to engage families in data collection and progress monitoring for their children with ASD.
- Identify a strategy to assess the social validity of an intervention.

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What do we know about the effects of parent training in ASD?

<ASD symptoms >child initiation

- RCT of 2-4 year olds with ASD
- 12 sessions over 6 months
- 6 month extended support
- 20-30 daily family implemented activities

(Pickles et al., 2016)

<ASD severity +parent synchrony +child initiation

- RCT with infants between 8 & 14 months
- 12-session parent mediated social communication intervention

(Green et al., 2017)

>Parent-Child interaction & language comprehension <ASD symptoms

- Systematic review of 17 studies of parent mediated interventions

(Oono et al., 2013)

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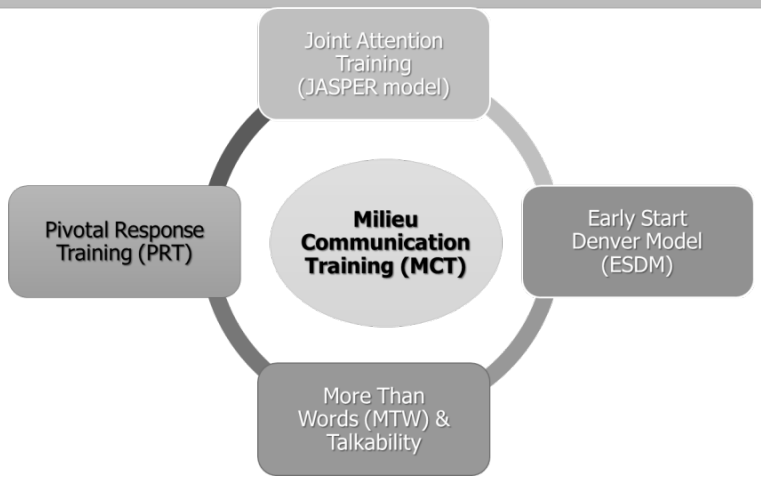
What are frequently used Parent Training Interventions for ASD?



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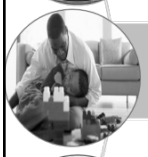
Joint Attention (JA): What & Why

Ability to **coordinate visual attention** with or **direct gaze** to another **person** and to the **same external object or activity** and **sharing interest** in that object or activity (Carpenter & Tomasello, 2000; Mundy & Stella, 2000)



More impaired than for other children with DD; less interest in people & unfamiliar objects (Adamson et al., 2010; Clifford & Dissanayake, 2008; Dawson et al., 2004)

Predictor of language ability & gains; associate with word learning & receptive language (Bono et al., 2004; Kasari et al., 2001; Murray et al., 2008; Tomasello, 1995)

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Response to Joint Attention (RJA)

Ability to read the direction of another's eye gaze

Head turn &/or pointing gesture

Impairment in RJA leads to missed opportunities for social learning

RJA at 14 months predicts ASD outcome (Sullivan, et al., 2007)

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Initiation of Joint Attention (IJA)

Intentionally directing another person's attention

- Usually develops by 12 months of age (Toth et al., 2006)
- Ability to disengage attention from object focus to initiate JA difficult for children w/ASD
- Language abilities related less to IJA than RJA

(Murray et al., 2008; Schietecatee et al., 2012)

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JASPER: Joint Attention, Symbolic Play and Engagement Regulation

VIDEO:
http://interactingwithautism.com/section/treating/jasper

Parents & therapists are co-interventionists who

- Follow the child's lead
- Incorporate strategies into daily routines
- Target social communication

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JASPER Intervention Strategies

- **Assessments completed to measure joint attention, play and engagement to determine intervention targets**
- **Adult (teacher, paraprofessional, therapist, or parent) & child meet 2tx/wk for several sessions with trained professional to learn the JASPER strategies**
  - Slow pace of language to match child
  - Avoid directive language (e.g., questions, commands)
  - Focus on commenting to promote spontaneous language

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JASPER Intervention Strategies

- **Strategies implemented in natural play setting to support joint attention, language & play acts**
  - Modeling
  - Prompting hierarchies
  - Imitating
  - Expanding
  - Pacing adult language to match the child's language
  - Adjusting play routines based on the child's interests
  - **VIDEO**: http://resources.autismnavigator.com/asdglossary/#/section/72/jasper

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JASPER uses 4 Active Ingredients

(Gulsrud et al., 2015)

- **Environmental arrangement**
  - Choices of toys & play materials to keep child interested
  - Parent proximity to child's eye level
- **Mirrored pacing**
  - Follow child's lead
  - Mirror child's interests through selected imitation of play
  - Model turn taking
- **Prompting**
  - Use strategies to improve engagement & communication
  - Prompt names of objects or actions in play (C: Points to baby; P: Say'baby' & gives them baby)
- **Communication**
  - Imitate child's language
  - Expand child's language (C: Baby; P: Feed the baby)

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Selected Evidence for Joint Attention Training

Description	Results	Reference
Parents taught, using didactic training, modeling & coaching, to get child's attention before instruction; used child choice & motivating toys to initiate JA, prompt a response & respond contingently; TX 3tx/wk, 75 min.; children with ASD 2-4 years	Children >positive response (esp. to objects) & > IJA; parents >IJA during TX, although not maintained	Rocha et al., 2007
Parent-child interaction 60 min/day with 3 children (22-33 months old); focused on faces, turn-taking, RJA & IJA	Steady growth across contexts; maintained 5 wks post-TX	Shertz & Odom, 2007
TX using discrimination training & turn taking on JA in 4 children with ASD	All showed improvement in RJA & IJA following TX; maintained at 1 month	Isaksen & Holth, 2009
Examined impact of JA TX (24 caregiver mediated sessions, 3 tx/wk for 8 wks) on joint engagement of caregivers & toddlers with ASD; 1 yr follow-up	Significant improvements in JA; maintained 1 year post TX	Kasari et al., 2010
RCT with children with ASD assigned to JA, Symbolic play (SP) or control (extension of Kasari 2006 study)	Both JA & SP group >RJA & IJA; maintained at 6 & 12 follow-ups	Lawton & Kasari, 2012
23 parents & toddlers with ASD assigned to JA mediated learning or control	JA group > focusing on faces & responding to JA maintained at follow-up	Schertz et al., 2013

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More Than Words (MTW)

Hanen Program (www.hanen.org) =>family-based intervention for young children with ASD
(Sussman, 1999, 2016)

Parents learn that communication depends on:

- Being able to pay attention
- Finding enjoyment in two-way communication
- Imitating and understanding what others say and do
- Interacting and having fun doing it
- Practicing what you learn
- Having structure, predictability, and repetition
- **VIDEO:** http://resources.autismnavigator.com/asdglossary/#/section/56/mtw

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More than Words: Intervention Strategies

(Sussman, 2009, 2016)

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Selected Evidence for More Than Words

Description	Results	Reference
49 mothers, 2 fathers; 51 children with ASD using MTW	Positive results for parents' use of facilitative strategies & in children's vocabulary size	McConachie et al., 2005
3 families of children (2.8-3.2 years) with ASD	Parents >use of responsive interaction strategies; >vocabulary	Girolametto et al., 2007
62 children with ASD; mean age: 20.25 months	>IJA, behavioral requests, intentional & NV communication >for those with limited toy use than controls; maintained at 4 mo. FU	Carter et al.,, 2011
4 children with ASD & families	>social & symbolic communication; >vocabulary	Prelock et al., 2011

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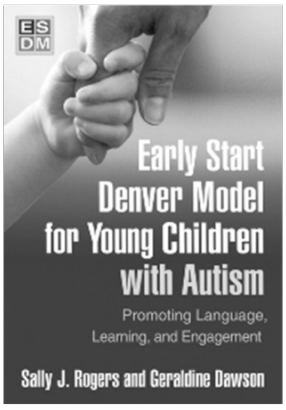
Early Start Denver Model (ESDM) (Rogers & Dawson,2009)



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What is ESDM?

Includes an assessment process (i.e., ESDM Checklist)

Provides practices and curriculum for children 12-48 months with ASD

Capitalizes on early brain plasticity & potential for behavior change

Focuses on social orienting & initiation deficits to produce social-communicative brain building

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ESDM Treatment Approach

- An eclectic autism intervention
- Integrates ABA techniques with developmental & relationship based approaches
- Specific interventions based on:
  - Applied Behavior Analysis (ABA)
  - Pivotal Response Training
  - Denver Model

Delivered in the home with a trained therapist & parents at high intensity (25 hrs./week)

Joint Activity Routines: activities in which two partners are engaged with each other in the same activity, attending to the same objects or playing or working together on a common activity.

VIDEO: http://resources.autismnavigator.com/asdglossary/#/section/71/esdm

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Selected Evidence for ESDM

Description	Results	Reference
48, 18 to 30 month-old children with ASD randomized to 2 groups: ESDM & Assess and Monitor (A/M) group Assessed at baseline, 1 & 2 years after 15.2 hours/wk. of intervention Parents applied ESDM principles 5 hrs/wk	ESDM group showed 17.6 pt. improvement in IQ, compared with 7.0 pts. for A/M group; steady rate on development in adaptive behavior, where A/M group showed decline/ greater delays; more likely to experience a change in diagnosis from autism to PDD-NOS	Dawson et al., 2010
48, 18- to 30-month-old children with ASD randomized to receive ESDM or referred to community intervention for 2 years	ESDM group exhibited >improvements in autism symptoms, IQ, language, & adaptive and social behaviors than community TX group; >cortical activation similar to typical children, decreased latency event related potential, & other brain function improvements when viewing faces, whereas community TX group showed opposite pattern	Dawson et al., 2012
18-48 and 48-62 month olds received ESDM	Younger group showed greater verbal DQ than an older group; both groups showed improvement in nonverbal DQ & adaptive functioning behavior.; either group showed changes in ADOS scores	Vivant et al., 2016
Electrophysiological & habituation measures of social attention collected at 6, 12, & 18 months in high-risk infant siblings of children with ASD Between 9 & 11 months of age, received a parent-delivered intervention	Those receiving the intervention showed response patterns similar to the normative responses of age-matched low-risk controls.	Jones et al., 2017
20 children received eclectic TX, 2 hrs. per day, 10 hr per week; 16 children received ESDM culturally adapted intervention, 1 hr per day, 5 hr/wk + 5 hr/wk of eclectic TX; for 8 wks.	ESDM <autism symptoms & improved severity categorization, compared to controls	Xu, Yang, & Yao, 2017

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Pivotal Response Training (PRT)

Pivotal behaviors . . .

- **Central to wide areas of functioning**
- **When taught, result in widespread positive effects across many other behaviors.**

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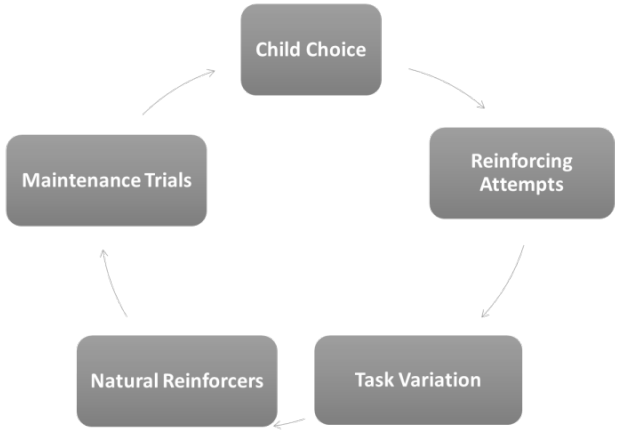
PRT: Core Motivational Variables



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Pivotal Response Training: Primary Targets

VIDEO:
http://resources.autismnavigator.com/asdglossary/#/section/50/prt

- Motivation
- Responsivity to multiple cues
- Self initiation
- Empathy
- Self regulation
- Social interaction

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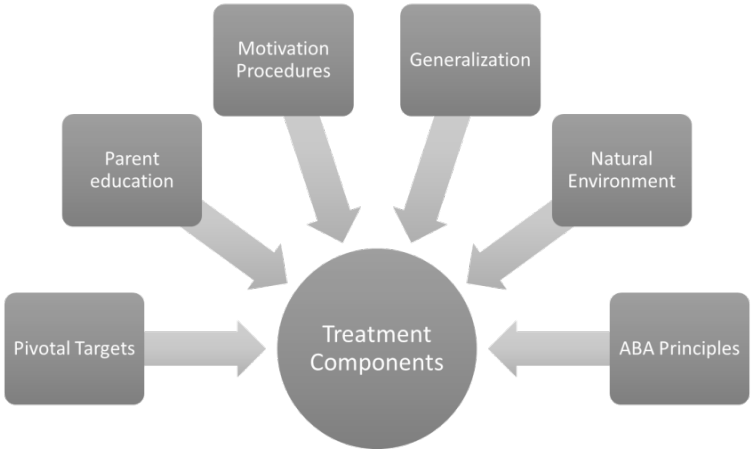
Pivotal Response Training



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Selected Evidence for Pivotal Response Training

Description	Results	Reference
12 week parent training in PRT	+outcomes on the Vineland	Baker-Ericzen et al.,2007
Self-directed learning program to provide parent training in PRT	Strong parent satisfaction	Nefdt et al., 2010
Parent training using PRT	>communication skills	Coolican et al., 2010
Parents taught to use PRT in group format	>language gains	Minjarez et al., 2011
3 children with ASD (3 year olds) received PRT	>social question asking; initiated untargeted questions during social interactions in novel setting	Koegel et al., 2014

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Milieu Communication Teaching (MCT)

VIDEO:

http://resources.autismnavigator.com/asdglossary/#/section/55/emt

PURPOSE: To facilitate early communication and language development (Gilbert, 2008)

INCLUDES:

- Prelinguistic Milieu Teaching (PMT)
- Enhanced Milieu Teaching (EMT)

STRATEGIES:

- Task analysis
- Predictable structure
- Attention to antecedent & consequent events

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Strategies to Support MCT

- **Place objects of interest in sight but out of reach**
- **Use expectant waiting (time delay) focusing on objects of interest**
- **Withhold interesting materials**
- **Give inadequate materials/portions**
- **Sabotage routines or violate expectations**
- **Protest actions**
- **Create unexpected situations**
- **Model, reinforce naturally, and imitate contingently**

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Selected Evidence for MCT

Description	Results	Reference
5 preschoolers with ASD; parent-delivered PMT techniques	>communication outcomes	Kashinath et al., 2006
16, 2 to 4 year olds with ASD; parent-delivered PMT	Improvements in communication & symbolic abilities but not significant	Keen et al., 2007
6 nonverbal children with ASD, 5 to 8 years old received PMT	>number of communicative interactions during play; > rate of intentional communication initiations with adults	Franco et al, 2013
Parent taught EMT to their young children with ASD	>spontaneous communication, utterance length, number & diversity of words spoken; generalized learning to home setting	Hancock & Kaiser, 2002; Hancock et al., 2000; Hemmeter & Kaiser, 1994
Parents of 6 children with ASD used EMT in the home over 24 sessions	4 children generalized & maintained their language skills following TX	Kaiser et al., 2000
3 children with ASD used a communication aid + EMT to request play items	> Total requesting during play	Olive et al., 2007

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The Clinical Question Matters

- Is the treatment associated with change?
- Is the child demonstrating important change?
- Are there criteria for mastery?
- Which criteria trigger an advance to higher-level treatment goals?

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Parents as Data Collectors

- **Caregivers . . .**
  - provide insight into a child's social, behavioral, and communicative challenges across a range of settings and situational contexts
  - are valuable collaborators in the development and assessment of intervention
  - are reliable and accurate sources of information (Crais, 1993)

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Parents as Data Collectors

- Consider including parent in designing the exact procedures for data collection
- Make it simple
- Make it practical

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Example of Daily Diary Data

- Parents asked to rate general & subjective impressions regarding change (or no change) by indicating agreement with statements on a 10-point Likert-type scale from "strongly disagree" to "strongly agree"
- EXAMPLE: *Based on my judgments today, Antonia's ability to respond to my initiations has increased*.
- If no opportunities to form impressions about the statements on a particular day, parents instructed to indicate "don't know" which was treated as missing data (Hutchins & Prelock, 2013, p. 158).

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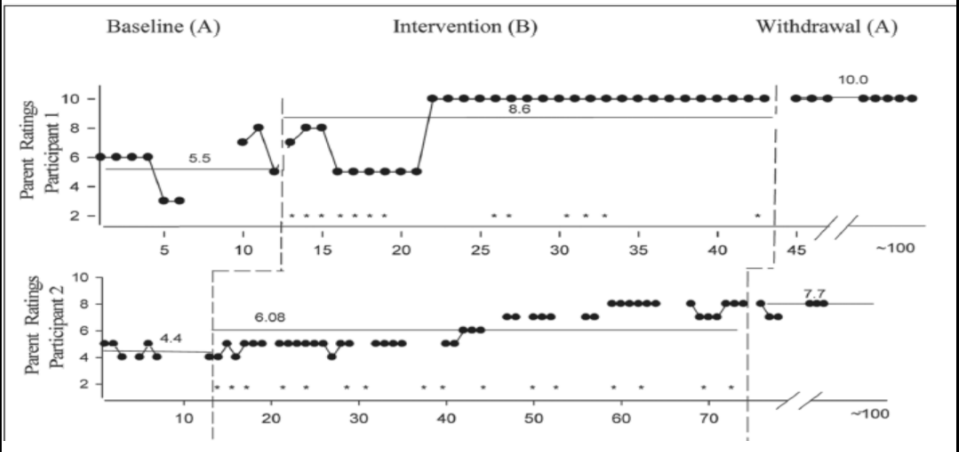
Hutchins & Prelock, 2013



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Social Validity

Treatment is perceived by those using it to be socially acceptable, feasible, and effective (Wolf, 1978)

Social validity influenced by:

- Cost and time needed to implement
- Side effects & perceived effectiveness
- Treatment goal & severity of the problem (Reimers et al. 1992)

What do you do?

- Develop brief, carefully designed questionnaires, simple rating scales
- Borrow or adapt existing measures (Berger et al., 2016)

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SCALE OF TREATMENT PERCEPTIONS

(Berger, Manston, & Ingersoll, 2016)

EFFECTIVENESS SUBSCALE

This treatment is likely to be effective

I find this treatment acceptable for increasing the child's skills

Using the treatment improves skills across multiple contexts (home, classroom, community)

The child's skills remain at an improved level even after the treatment ends

This treatment quickly improves the child's skills

I would be willing to carry out this treatment myself if I wanted to increase the child's skills

I would suggest the use of this treatment to other individuals

This treatment decreases the level of stress experienced by the child's family

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SCALE OF TREATMENT PERCEPTIONS

(Berger, Manston, & Ingersoll, 2016)

FAMILY FIT SUBSCALE

This treatment places an additional burden on the family of the child (reverse scored)

This treatment causes the primary caregivers to give up more of their life to meet the child's needs than expected (reverse scored)

It would be easy to accommodate this treatment into the family's schedule

Participating in this treatment is likely to cause problems in the relationship between spouses/ parenting partners (reverse scored)

This treatment will not interrupt the functioning of others in the environment (e.g., the other children in the classroom, siblings in the home, etc.)

Participating in this treatment will decrease the amount of time the family can spend together (reverse scored)

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SCALE OF TREATMENT PERCEPTIONS

(Berger, Manston, & Ingersoll, 2016)

SAFETY SUBSCALE

I find this treatment cruel or unfair (reverse scored)

I think there might be risks in undergoing this kind of treatment (reverse scored)

I think undesirable side effects will result from this treatment (reverse scored)

The child experiences discomfort during the course of this treatment (reverse scored)

This procedure treats the child humanely

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