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Philosophy

Blending data-driven, evidence-based treatment methods to improve performance in areas that are the core features of autism spectrum disorders.

- Social Communication
- Restricted/Repetitive Behaviors



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Objectives

- Understanding Families
- Targeting Core Features
- What is Evidence-Based?
- Behavioral Perspective on Sensory Issues
- What Makes STEPS Different
- Melding Developmental with Behavioral Models
- Review Data

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Understanding Families

- Describe some of your families
- What similarities exist?

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Understanding Families

Limited activities	How currently engaging children
-eating out	-iPads
-parks/swimming pools	-videos
-visiting friends	-phones
-religious ceremonies	-playing with toys?
Take on child's responsibilities	-use of language
-dressing	Family's expectations for therapy
-feeding	Knowing how to evaluate therapy
-cleaning	Asking the right questions of therapists
-washing	Understanding available therapies
Family's expectations of children	

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Core Deficits

- Initiation
- Engagement
- Joint Attention
- Play
- Imitation
- Gestures

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Core Deficits-Receptive Language

- Sounds as meaning
- Attention
- Pointing
- Gestures
- Complexity/Length of utterance
- Word structure
- Sentence structure
- Narratives

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Core Deficits-Expressive Language

- Initiation
- Echolalia
- Spontaneous vs. prompted
- Word finding-semantic errors
- Gestures
 - Simultaneously with speech
- Asking questions
 - Variability
- Conversation
 - Reciprocity
 - Following rules
 - Following & providing leads
- Pragmatics
 - Proxemics
 - Volume
 - Intonation
 - Rate
- Narratives
 - Cohesive ties
 - Story elements
 - Sequencing
 - Appropriate content
 - Appropriate context
 - Presupposition

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Simplified Core Targets

- Initiation
- Engagement
- Joint attention
- Play
- Conceptual development
- Language
- Conversation
- Gestures
- Learning readiness
- Activities of daily living

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Evaluating Evidence-Based Treatment Methods

- Pure Medical Model
- Agency for Healthcare Research and Quality (2011 & 2013)
- Reichow, Volkmar, Cicchetti (2008)
- National Autism Center's- National Standards Project (2009 & 2015)

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Evaluating Evidence-Based Treatment Methods

- Pure Medical Model- **no EBP for ASD**
- Agency for Healthcare Research and Quality (2011 & 2013)-
 - Behavioral
 - UCLA/Lovass- LOW
 - ESDM- LOW
 - All others- INSUFFICIENT
 - Social skills, Play/interaction, TEACCH, CAM
- Behavioral
 - Early, intensive, extended- LOW to MOD (cog & lang)
 - Parent training- LOW (lang)
 - Social Skills- Low (social)
 - Play/interaction- LOW (IA)
 - CBT- HIGH (anxiety; IQ>70; older)
 - All others- INSUFFICIENT

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Evaluating Evidence-Based Treatment Methods

- Reichow, Volkmar, Cicchetti (2008)
 - introduced operational methods for determining evaluation of evidence
 - Research Report Rigor (quality)
 - Research Report Strength (# of quality indicators)
 - Criteria for EBP
 - # of studies dependent on research design
 - # of different research teams
 - # of geographic locations research was completed

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National Standards Project (NSP)

- Divided at 22 year olds
- No power/limitation to research group or location
- No outside replication
- No consideration of combined/individual treatments
- May represent more realistic application of Tx

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NSP- Established Treatments

- Behavioral interventions
- Cognitive Behavioral Treatment
- Language Training
- Modeling
- Naturalistic Teaching Strategies
- Parent Training Package
- Peer Training Package
- Pivotal Response Treatment (PRT)
- Schedules
- Scripting
- Self-management
- Social Skills Package
- Story-based Interventions

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NSP- Emerging Treatments

- AAC
- Developmental Relationship-based treatment
- Exercise
- Exposure package
- Functional communication training
- Imitation-based intervention
- Initiation training
- Massage therapy
- Multi-component package
- Music therapy
- PECS
- Reductive package
- Sign instruction
- Social communication intervention
- Structured teaching
- Technology-based intervention
- Theory of mind training

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NSP- Unestablished

- Animal-assisted therapy
- Auditory Integration Training
- Concept Mapping
- DIR/Floor Time
- Facilitated Communication
- GFCF Diets
- Movement-based Intervention
- SENSE Theatre Intervention
- Sensory Intervention Package
- Shock Therapy
- Social Behavioral Learning Strategy
- Social Cognition Intervention
- Social Thinking Intervention

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EBP Resources

- www.cochrane.org
- <http://www.ahrq.gov/clinic/epc/epcenters.htm>
- <http://www.cebm.net/>
- <http://www.nationalautismcenter.org/national-standards-project/>

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Sensory Issues

- Just because a child exhibits sensory seeking behaviors, we do not provide sensory input to then regulate and engage activities
- These can be rewards because pragmatically children must learn to sit without sensory dependencies like chewy tubes or weighted vests.

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Sensorimotor Play

- Gross motor circuits are at the beginning of every treatment session
- Encourage body awareness, strength, balance, coordination
- Learn to follow directions, be in a moving group
- Practice transitioning between obstacles
- Includes fine motor stations
- Includes exposure episodes

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What Makes STEPS Different?

- Master's Level Therapists completing all intervention
- No techs as in ABA who are merely supervised by master's level
- Meld a Developmental Approach with Language and Behavioral Approach

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What Makes STEPS Different?

- Extensive problem solving with parents
- Address language/behavior/aversion issues at home and in the community
 - Reduction of all screen-time activities at home, replaced with developmentally appropriate activities
 - Local community outings
 - Home environment changes
 - Age-appropriate dressing / undressing skills
 - Bath-time behaviors
 - Meal-time challenges
 - Fine motor and pre-writing issues

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Combining Developmental with Behavioral Perspectives

- We have basic ideas of core features to target
- We have evidence-based interventions for these areas
- Combining developmental perspectives with behavioral perspectives creates foundation for implementation

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Developmental Model

- Development results from the intent to communicate using symbolic acts (gestures, speech, facial expressions, etc.) which creates functions for conversation and impacts its participants while creating context (Dore, 1986).
- Relies on motivation for social interaction and to develop concepts of self and others
 - Not dependent on innate linguistic competence or strict reinforcement principles
 - **Highlights difficulties associated with ASD (social intent)**
- Hierarchy of skills follows developmental progression
- Based on appropriateness for developmental stage; not on what is chronologically expected

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Developmental Model

- Intentionality
- Children's actions in the world along with their interpretations and expression of language lead to the mental contents of their minds (Bloom & Tinker, 2001)
- Participation in social worlds depends on the expressions and interpretations between children and family, caregivers, educators, etc.

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Behavioral Model

- 'Infants learn oral language from other human role models through a process involving imitation, rewards, and practice. Human role models in an infant's environment provide the stimuli and rewards' (Cooter & Reutzler, 2004)
- ABA rewards appropriate behaviors and responses because children are less likely to continue those behaviors that are not rewarded. Over time, the reinforcement is reduced so that the child can learn without the constant rewards.

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Developmental-Behavioral Model

- Develop communication following developmental hierarchies with multimodal strategies while using behavioral strategies to increase and shape positive interactions and extinguish negative behaviors.

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Hierarchies

- Gives meaning to language!
- **Developmental Hierarchies** outline goal progression while remaining within appropriate constraints
 - Ex. Phonemes for articulation
- **Prompting Hierarchies** increase spontaneity, initiation, and progress to natural social cues
 - Ex. Wide eyes='What!?!'; Hand to ear= talk louder

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Hierarchies

- **Least-to-most scaffolding hierarchies** provide the framework for errorless learning while avoiding prompt dependency
 - Anticipating child's response
 - Timing/synchrony/speed

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Ex. Specific Hierarchies

- **Request hierarchies** scaffolds support to achieve highest level of initiated request
 - Time Delay Strategies
 - Open prompt
 - Choice prompt
 - 'Say' prompt
- **Always expand!**



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Expansions

- Applying child's focus to increase complexity and generalize
- Repeating what child says and adding one more word
- Target concepts or structures already being targeted
 - Ex. modifiers, verbs, carrier phrases

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1st Person Language

- By talking in the first person we:
 - Use echolalia as a tool to avoid pronoun confusion/transposition
 - Ex. 'That's me!' while pointing at image of child
 - Model desired spontaneous language instead of asking questions
 - 'Can I have blue? Instead of, 'Do you want blue?'

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OT perspective for Parent Training

- Extensive problem solving with parents
- Address language/behavior/aversion issues at home and in the community
 - Reduction of all screen-time activities at home, replacing with age-appropriate/developmentally appropriate activities
 - Local community outings
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STEPS Framework

- All therapy provided by Master's level therapists
- Preschool model
- Melding approaches within each other
- Advanced developmental knowledge
 - Language acquisition
 - Symbolic progression
 - Fine/Gross motor planning and development
- Utilize prompting hierarchies



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STEPS Models

- STEPS
 - Occupational Therapy integrated into Gym Activities
- MSTEPS
 - Integrated Model with all therapists in one room with different stations
- STEPS Training
 - Focus on caretaker implementation of strategies



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Goals

- Shows progress when understanding of demands is just emerging
- Also monitors behavior compliance

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OT Standardized Measures

- Testing Battery completed pre-treatment, between sessions, & post-treatment
- Fine Motor Assessments
 - PDMS-2
 - 9-Hole Peg Test
 - BOT-2 (high-functioning kids)
- Parent Report Measures
 - Canadian Occupational Performance Measure

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Standardized Measures

- Testing Battery completed pre-treatment, between sessions, & post-treatment
- Vocabulary
- Language
- Play
- Joint Attention
- Restricted/Repetitive Behaviors
- Parent Reports
 - Language
 - Behaviors
 - Education
 - Satisfaction

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Additional Data Analysis

- Demographics
- Goal acquisition
- Screen time
- Social opportunities
- Initiation of other therapies
- Reliability of parent reports
- Additional Standard Measures
 - CELF-P2
 - CCC2
 - MaCarthur

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