Adapting Early Communication Intervention to the Phenotypic Characteristics of Young Children with Language Impairment
Part II

Ann P. Kaiser
Vanderbilt University
Today’s Talk

• Building a new generation of communication interventions
• Enhanced Milieu Teaching (EMT)
  • Brief overview
  • Research evidence
• EMT active ingredients
  • Underlying model of communication development
  • Core procedures
  • Additions to core EMT
• Adapting EMT To Fit Learner Characteristics
  • Profiles of four populations
  • Adaptations to maximize social communication outcomes
• The Intervention Tool Box: Tools for Adapting EMT
• Summary and Conclusions
EMT Principles and Strategies

1. Promote adult-child communication *now*
   - Notice and respond
   - Follow the child’s lead

2. Increase child engagement with objects and activities
   - Child preferred activities
   - Join the child in play and activity
   - Teach play and participation

3. Expand the social basis of communicative interactions
   - Arrange environment to increase engagement
   - Teach joint attention strategies
   - Balance turns (mirror and map)
   - Increase person engagement

4. Teach child communication target forms to advance language
   - Respond
   - Model
   - Expand
   - Prompt
EMT Child Communication Goals

1. Increase duration of engagement
   • Social (joint engagement)
   • Objects (play)

2. Increase rate of communication
   • Emphasize spontaneous social initiations

3. Increase diversity of communication
   • Same level forms
   • More words and phrases
   • More functions (requests, comments, questions)
   • Across more contexts

4. Increase complexity of communication
   • Higher level forms
   • Prelinguistic to linguistic,
   • Mean length of utterances
   • Complexity of utterance types

5. Increase independence
   • Initiated social communication
   • Generalization across contexts, people
Part II
Adapting EMT
Review: EMT Active Ingredients

- Environmental arrangement to promote communication
- Play and engage
- Follow child’s lead in play and activity
- Respond to child communication
- Model language in context
- Expand child communication**
- Use time delay to prompt requests or initiations
- Use Milieu Teaching Prompts to promote practice
- Teach across settings, activities and partners

** In 2 randomized trials, expansion has been the ingredient most highly correlated with child outcomes (Kaiser & Roberts, 2012; Roberts & Kaiser, under review)
What Children Bring to EMT

- Access to Input
- Intelligibility
- Fluency

- Person
- Object
- Activity

Mode

Engagement Strategies

Baseline Communication

Learning Strategies

- Rate
- Form
- Functions
- Transparency to partners

- Imitation
- Auditory memory
- Efficiency
EMT Modifications to Fit What Children Bring

- Provide alternative mode
- Signs
- SGD
- Teach partners mode

• Teach imitation
  • Add discrete trials
  • Increase dosage

• Teach play
  • Increase person engagement
  • Teach coordinated joint attention

• Teach joint attention skills
• Support partner comprehension

Baseline Communication

Mode

Engagement Strategies

Learning Strategies
<table>
<thead>
<tr>
<th>EMT Active Ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play and engage</td>
</tr>
<tr>
<td>Follow child’s lead in play and activity</td>
</tr>
<tr>
<td>Respond to child communication</td>
</tr>
<tr>
<td>Model language in context</td>
</tr>
<tr>
<td>Expand child communication</td>
</tr>
<tr>
<td>Use time delay to prompt requests or initiations</td>
</tr>
<tr>
<td>Use Milieu teaching prompts to promote practice</td>
</tr>
<tr>
<td>EMT Active Ingredient</td>
</tr>
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<td>--------------------------------------------------</td>
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<tr>
<td>Expand child communication</td>
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<td>Use Milieu teaching prompts to promote practice</td>
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<td></td>
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<tr>
<td>Active Ingredient</td>
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<td>-------------------</td>
</tr>
<tr>
<td><strong>Play and engage</strong></td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>Use Milieu teaching prompts to promote practice</strong></td>
</tr>
</tbody>
</table>
Modifications of EMT

• JASPER + EMT [J-EMT]
  • Teaches joint attention, symbolic play, regulation

• JASPER + EMT + AAC [J-EMT+ SGD ; Words + Signs]
  • Teaches joint attention, symbolic play, regulation
  • Includes speech generating device or signs for input and output

• Phonological Emphasis + EMT [PE-EMT]
  • Models speech targets
  • Recasts for speech

• + Discrete trial training [Rescue protocol]
• - Reduce prompt complexity, number of prompts [Simplify]
• + Increase Dosage [Dosage]
• + Support Partners to use mode and EMT [Partner]
## Phenotypic Specific Modifications

<table>
<thead>
<tr>
<th>Population</th>
<th>Modifications</th>
<th>Mode</th>
<th>Engagement</th>
<th>Learning Strategy Support</th>
<th>Baseline Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toddlers with Receptive/Express Delay</td>
<td></td>
<td>No</td>
<td>No</td>
<td></td>
<td>Support partner as teacher</td>
</tr>
<tr>
<td>Down syndrome</td>
<td>+ Sign or SGD</td>
<td>Teach play</td>
<td>+Dosage</td>
<td></td>
<td>Support partner comprehension</td>
</tr>
<tr>
<td>Cleft Lip +/or Palate</td>
<td>+ Speech targets</td>
<td>No</td>
<td></td>
<td>+Recast + Speech practice</td>
<td>Increase rate of child talk</td>
</tr>
<tr>
<td>Minimally Verbal ASD</td>
<td>+ SGD</td>
<td>Teach play, engagement</td>
<td>+Dosage +Rescue Protocol: imitation, receptive language</td>
<td>Teach joint attention skills</td>
<td></td>
</tr>
<tr>
<td>EMT Active Ingredient</td>
<td>Modification</td>
<td>EMT Type</td>
<td>Population</td>
<td>Study</td>
<td></td>
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<td>-------------------------------------------------------------------------------</td>
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<td>------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Play and engage</td>
<td>Teach play, Use person engaged activity to reinforce social engagement</td>
<td>J-EMT</td>
<td>ASD Minimally verbal ASD</td>
<td>Kasari, et al., 2006 Kasari, Kaiser et al 2014 Kasari et al in progress</td>
<td></td>
</tr>
<tr>
<td>Follow child’s lead in play and activity</td>
<td>Teach play Provide more motivating materials, choices</td>
<td>J-EMT</td>
<td>ASD Minimally verbal ASD</td>
<td>Kasari, et al., 2006 Kasari, Kaiser et al 2014</td>
<td></td>
</tr>
<tr>
<td>Respond to child communication</td>
<td>Modify mode Train partners to recognize communication Target simple rate increases first</td>
<td>Words &amp; Signs J-EMT +SGD</td>
<td>DS ASD</td>
<td>Wright, Kaiser, Roberts &amp; Reikowsky 2012; Kasari, Kaiser et al 2014;</td>
<td></td>
</tr>
<tr>
<td>Model language in context</td>
<td>Teach imitation skills Modify modeling to fit speech or mode characteristics</td>
<td>Rescue protocol PE-EMT Words + Signs J-EMT +SGD</td>
<td>Minimally verbal ASD Cleft toddlers DS</td>
<td>Kasari, et al in progress Scherer &amp; Kaiser, 2011 Kaiser, Scherer,&amp; Frey, in press</td>
<td></td>
</tr>
<tr>
<td>Expand child communication</td>
<td>Teach prelinguistic skills (point, show, give) Increase intelligibility Make mode more transparent to partner</td>
<td>J-EMT+ SGD Words + Signs</td>
<td>Minimally verbal ASD DS</td>
<td>Kasari et al 2006 Kasari, Kaiser et al, 2014; Kaiser Hampton, &amp; Fuller, in progress Wright et al 2012</td>
<td></td>
</tr>
<tr>
<td>Use time delay to prompt requests or initiations</td>
<td>Modify time delay (lessen production demand) until child regularly responds Choose highly preferred objects</td>
<td>EMT Words + Signs/SGD Simplify to accept gesture</td>
<td>Toddlers with receptive/expressive delay DS ASD toddlers</td>
<td>Roberts &amp; Kaiser 2012; 2015 Wright et al 2012; 2015</td>
<td></td>
</tr>
<tr>
<td>Use Milieu teaching prompts to promote practice</td>
<td>Teach responding to prompts and least to most support sequence, Increase reinforcement for responding</td>
<td>EMT Words + Signs Simplify</td>
<td>Toddlers with receptive/expressive delay DS ASD toddlers</td>
<td>Wright et al 2012 Roberts &amp; Kaiser, 2015 Scherer &amp; Kaiser, 2011; Kaiser, Scherer &amp; Frey, in press</td>
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</tr>
</tbody>
</table>
The Effects of a Parent-Implemented Language Intervention for Children With Language Impairment

Megan Y. Roberts, PhD, CCC-SLP
Ann P. Kaiser, PhD
# Toddlers with Receptive/Expressive Delays

<table>
<thead>
<tr>
<th>Communication Challenges</th>
<th>Adaptations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem behaviors</td>
<td>Increase attention to positive behavior, plan routines, teach communicative alternatives</td>
</tr>
<tr>
<td>Low rates of talking</td>
<td>Use responsiveness strategies to increase rate</td>
</tr>
<tr>
<td>Low lexical diversity</td>
<td>Model expanded vocabulary before and during early syntax targets</td>
</tr>
</tbody>
</table>
## Toddlers with Receptive/Expressive Delays

<table>
<thead>
<tr>
<th>Study Component</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Design**      | Randomized Clinical Trial  
45 Intervention , 43 Control |
| **Intervention**| EMT with Play Skills  
28 sessions ( 4 workshops, 14 clinic, 10 home across routines)  
Parent + Therapist |
| **Measures**    | Pre, 6 wks, 12 wks, 18 wks (end of intervention)  
Standardized, observational, parent report |
| **Participants**| Average age: 31 months  
Average Bayley Cognitive Score: 85  
Gender: 83% male  
PLS-4: 70 |

Parent + Therapist EMT

Enhanced Milieu Teaching with a Toddler
Intervention Group: Pre-Post Gains

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressive language (PLS-4)</td>
<td>75</td>
<td>84</td>
</tr>
<tr>
<td>Receptive language (PLS-4)</td>
<td>77</td>
<td>86</td>
</tr>
<tr>
<td>Expressive vocabulary (EOWPVT-3)</td>
<td>61</td>
<td>76</td>
</tr>
</tbody>
</table>
Outcomes Intervention vs. Control

- **Expressive language** (PLS-4) Standard Score:
  - Intervention: 84
  - Control: 80
  - Effect Size: $d = 0.3$

- **Receptive language** (PLS-4) Standard Score:
  - Intervention: 86
  - Control: 77
  - Effect Size: $d = 0.3$

- **Expressive vocabulary** (EOWPVT-3) Standard Score:
  - Intervention: 76
  - Control: 70
  - Effect Size: $d = 0.3$

- **Receptive Vocabulary** (PPVT-4) Standard Score:
  - Intervention: 94
  - Control: 86
  - Effect Size: $d = 0.3$

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Outcomes Intervention vs Control: Number of Different Words

![Graph showing the comparison of treatment and control groups over three months. The graph tracks the number of different words used, with noticeable increases from Month 1 to Month 3.]

- **Start**:
  - Treatment: 19
  - Control: 18

- **Month 1**:
  - Treatment: 32
  - Control: 26

- **Month 2**:
  - Treatment: 47
  - Control: 32

- **Month 3**:
  - Treatment: 55
  - Control: 38

**Statistical Analysis**:
- Cohen's d for treatment vs control:
  - Start: d = 0.2
  - Month 1: d = 0.5
  - Month 2: d = 0.5
  - Month 3: d = 0.4

**MCDI**
- T: 264
- C: 215
- D = 0.4

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COMMUNICATION INTERVENTIONS FOR MINIMALLY VERBAL CHILDREN WITH AUTISM

Kasari, Kaiser, Goods, Nietfeld, Mathy, Landa, Murphy, & Almirall (2014)

Clinical Trials Number: NCT01013545. This study was funded by Autism Speaks #5666, Characterizing Cognition in Nonverbal Individuals with Autism (CCNIA).
## Children with Autism

<table>
<thead>
<tr>
<th>Study Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td>Randomized Clinical Trial; Multiple Baseline AAC, Verbal only</td>
</tr>
<tr>
<td><strong>Intervention</strong></td>
<td>EMT + Joint Attention and Symbolic Play 48 sessions in the clinic (24 therapist only, 24 parent + therapist)</td>
</tr>
<tr>
<td><strong>Measures</strong></td>
<td>Pre, Post, 6 months Standardized, observational, parent report</td>
</tr>
</tbody>
</table>
| **Participants**| Average age: 6 years, 6 months  
                  Average Leiter: 61  
                  Gender: 74% male  
                  PPVT: 32 |
## Communication Challenges

<table>
<thead>
<tr>
<th>Difficulty with joint engagement</th>
<th>Model and teach joint engagement behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few play skills and brief duration of play</td>
<td>Model and teach play skills</td>
</tr>
<tr>
<td>Requesting rather than commenting</td>
<td>Model commenting, limit requesting</td>
</tr>
<tr>
<td>Interfering behavior</td>
<td>Determine which behaviors are communicative; respond differentially</td>
</tr>
<tr>
<td>Very low rate spoken language</td>
<td>Add SGD</td>
</tr>
</tbody>
</table>
## Children with Autism

<table>
<thead>
<tr>
<th>Study Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td>Randomized Clinical Trial</td>
</tr>
</tbody>
</table>
| **Intervention**| EMT + Joint Attention and Symbolic Play (J-EMT)  
48 sessions in the clinic (24 therapist only, 24 parent + therapist) with/ without SGD |
| **Measures**    | Pre, Post, 6 months  
Standardized, observational, parent report |
| **Participants**| 61 children with ASD  
Average age: 6 years, 6 months  
Average Leiter: 68.16  
Gender: 74% male  
PPVT: 32  
Mn words at pre: 16.6 |

Intervention Variations

- J-EMT Spoken Language Only
- J-EMT + SGD
  - Speech Generating Device
    - Dynavox or iPad
  - Model using spoken language and SGD
    - At least 50% of utterances, 70% of expansions
  - Child could speak or use SGD to respond and communicate
Use of SGD

- SGD available to the child
- Programmed pages for toys sets
- Used communicatively with the child
  - 50% of adult utterance
  - 70% of adult expansions
- Child could respond to prompts with either SGD or spoken language
- Embedded in JASPER-EMT interactions
Results

• 70% of whole group met criterion for *response to treatment* at week 12

• Greater percentage of participants in the JASP + EMT+ SGD group (77%) were early treatment responders than in the JASP +SGD group (62%)

• Participants in the JASP + EMT +SGD group had :
  • more Social Communicative Utterances (SCU),
  • greater Number of Different Word Roots (NDW),
  • more comments (COM) than participants in JASP+ EMT group

• Both groups shows gains over time in SCU and NDW; only the JASP+EMT+SGD group showed gains in COM
## Results At 12 Weeks

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>12 weeks</th>
<th>Treatment Responders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TSCU</td>
<td>TND</td>
<td>TCOM</td>
</tr>
<tr>
<td><strong>JASP+ EMT</strong></td>
<td>28.4</td>
<td>16.8</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>JASP + EMT + SGD</strong></td>
<td>30.5</td>
<td>17.6</td>
<td>5.1</td>
</tr>
<tr>
<td>(difference)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effect Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
</tbody>
</table>

Social communicative utterances (TSCU), Number of different word roots (TND) and number of comments (TCOM) were derived from a naturalistic language sample with a blinded clinician.
Results for the primary outcome (Total Social Communicative Utterances).

Open plotting characters denote observed means; closed denote model-estimated means. Error bars denote 95% confidence intervals for the model-estimated means.
Further adaptations for children with ASD

- Blending direct instruction with naturalistic teaching
  - Population: Minimally Verbal 3-4 year olds with ASD
  - Protocol: Direct instruction for core behavior by therapist
  - Naturalistic teaching by therapist
  - Naturalistic teaching by parent
  - Clinic and home

- Teaching behavior and social support as a basis for naturalistic teaching
  - Population: 24-36 month old toddlers with ASD
  - Protocol: Pre-teaching attention, sustained play, social engagement
    by therapist; pre-teaching parent behavior strategies
  - Naturalistic teaching by therapist and parent
  - Home
EFFECTS OF NATURALISTIC SIGN INTERVENTION ON EXPRESSIVE LANGUAGE OF TODDLERS WITH DOWN SYNDROME.

## Children with Down Syndrome

<table>
<thead>
<tr>
<th>Communication Challenges</th>
<th>Adaptations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low rate of symbol infused joint attention</td>
<td>Model communication in joint engagement episodes</td>
</tr>
<tr>
<td>Poor articulation skills</td>
<td>Teach sign + word as mode</td>
</tr>
<tr>
<td>Poor auditory memory/ strong visual skills</td>
<td>Model words + sign</td>
</tr>
<tr>
<td>Poor generalization across partners, settings</td>
<td>Teach with multiple partners, settings, activities</td>
</tr>
</tbody>
</table>
# Children with Down Syndrome

<table>
<thead>
<tr>
<th>Study Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td>Multiple Baseline Single Subject</td>
</tr>
</tbody>
</table>
| **Intervention**| EMT Words + Signs  
24 sessions at home  
Therapist + Parent |
| **Measures**    | Pre, Post, ever 3 months  
Standardized, observational, parent report  
Use of signs |
| **Participants**| Gender: 1 male, 2 female  
Average age: 25 months (2.83)  
Average Mullen: 69 (8.04)  
Average PLS-Total Standard Score: 67.25 (5.32) |
Intervention Variation

- EMT Words + Signs
- Simplify and reduce prompting
- Parent training after responding to prompts was established with therapist
EMT Words + Signs for Young Children with DS

3 Toddlers with DS 18-22 mos
- Multiple Baseline Design
- Taught by SLP in Clinic
- Generalization to home activities with parents
- Phase 2, teaching parents
  - Wright et al, under review

<table>
<thead>
<tr>
<th>Parent Outcomes</th>
<th>Child Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Matched Turns</td>
<td>% Targets</td>
</tr>
<tr>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Ryan</td>
<td>41%</td>
</tr>
<tr>
<td>Erin</td>
<td>36%</td>
</tr>
<tr>
<td>Jay</td>
<td>34%</td>
</tr>
</tbody>
</table>
Further Adaptations for Children with DS

- Use iPad as an alternative to signs
- Strengthen therapist component
  - 2 sessions per week with child only (45 minutes each)
  - Based on previous outcomes for DS children (Yoder et al, 2016)
- Train parents across social and activity routines at home as well as in play
- Pre-teach skills and strategies using direct instruction (Heidlage, in progress)
  - Teach persistence, responding, prompt sequence
  - Teach multiple responses to single stimuli (label, action)
  - Teach label/action in matrix training format
EFFECTS OF EMT+PE ON THE LANGUAGE SKILLS OF YOUNG CHILDREN WITH CLEFT PALATE

Kaiser, Scherer, Frey & Roberts (in press)

NIDCD 1R21DC009654
## Children with Repaired Cleft

<table>
<thead>
<tr>
<th>Communication Challenges</th>
<th>Adaptations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low intelligibility</td>
<td>Recast unintelligible utterances, model phonological targets</td>
</tr>
<tr>
<td>Low rate of communication</td>
<td>Use responsiveness strategies to increase rate of communicating</td>
</tr>
<tr>
<td>Often shy, nonresponsive to prompting</td>
<td>Increase prompting after 12-24 sessions</td>
</tr>
</tbody>
</table>
### Children with Repaired Cleft

<table>
<thead>
<tr>
<th>Study Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td>Pilot Randomized Clinical Trial 7 Intervention, 9 Control</td>
</tr>
<tr>
<td><strong>Intervention</strong></td>
<td>PE-EMT 48 sessions in the clinic Therapist only</td>
</tr>
<tr>
<td><strong>Measures</strong></td>
<td>Pre, Mid, Post, 3 months, 6 months Standardized, observational, parent report</td>
</tr>
<tr>
<td><strong>Participants</strong></td>
<td>Average age: 25 months Average Bayley Cognitive Score: 101 Gender: 69% male PLS-4: 100</td>
</tr>
<tr>
<td>Scherer &amp; Kaiser, 2010 NIDCD 1R21DC009654-01A1</td>
<td></td>
</tr>
</tbody>
</table>
Intervention Variation

• Phonological Emphasis PE-EMT
• Choose word targets with target sounds
• Recast for phonological correctness
• Simplify prompt sequence
Children with Repaired Cleft

Number of Different Words

- **T0**: Intervention: 4, Control: 6
- **T1**: Intervention: 7, Control: 9
- **T2**: Intervention: 4, Control: 6

**ES**: $d = .72$, $p = .02$
Children with Repaired Cleft

Percentage of Consonants Correct

T0  T1  T2

Intervention  Control

0%  20%  40%  60%  80%  100%

52%  58%  78%

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Tools for Practice
Skills Needed for Effective Intervention

- Fluent in the use of EMT*
- Skills for training parents and partners*
- Skilled in the additional components
  - JASPER
    http://www.interactingwithautism.com/section/treating/jasper
  - AAC (sign or SGD)
  - Speech recasting
  - Discrete trial training

* Information available at http://kc.vanderbilt.edu/kidtalk/
Tools for Practice Assessment & Progress Monitoring

- Structured Play Assessment *
- Language Sample*  
  - Transcribed  
  - Coded for gesture  
  - Words, MLU, rate of initiations, rate of communication, consonant production
- Speech assessments  
  - Arizona, PEEPS or language sample with consonants transcribed
- Baseline EMT session*  
  - Responsiveness to comments, TD, Prompts;  
  - Prompted and spontaneous verbal imitation  
  - Use of targets
- Imitation probe *  
- Receptive language probe: receptive object and picture labeling
- Toy preference assessment (ongoing)

* Information available at http://kc.vanderbilt.edu/kidtalk/
Tools for Practice  
Progress Monitoring is Essential  

- Every child presents unique challenges in implementing EMT  
- How child is responding to the intervention is the test of whether the fit is right  
- Adaptive treatments are the 4th generation of language intervention  
- Quick tools for monitoring:  
  - IGDI [http://www.igdi.ku.edu/]  
  - Trackers for session data for therapist and child *
Tools for Practice
Fidelity and Dosage Matter

• Is the intervention being delivered at fidelity?
• Is the dosage of components within the intervention sessions sufficient?
  • Models, expansions, prompts
  • Is child responding to the active ingredients?
• Are sessions frequent enough, long enough?
• Do other partners need to be trained to increase dosage

<table>
<thead>
<tr>
<th>Fidelity Measure</th>
<th>% Criterion</th>
<th>% Intervention Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matched turns</td>
<td>&gt;75</td>
<td>98 (2.8)</td>
</tr>
<tr>
<td>Talk at child’s level</td>
<td>&gt;50</td>
<td>83 (12.5)</td>
</tr>
<tr>
<td>Recasted incorrect child utterances</td>
<td>&gt;40</td>
<td>76 (16.7)</td>
</tr>
<tr>
<td>Expanded child utterances</td>
<td>&gt;40</td>
<td>55 (16.0)</td>
</tr>
<tr>
<td>Time delay strategies</td>
<td>&gt;80</td>
<td>98 (8.0)</td>
</tr>
<tr>
<td>Prompting strategies</td>
<td>&gt;80</td>
<td>98 (12.4)</td>
</tr>
<tr>
<td>Words containing speech targets</td>
<td>&gt;25%</td>
<td>34 (17.3)</td>
</tr>
</tbody>
</table>
Last words

- EMT is a complex intervention
- The core of the intervention is always the social communicative connection between the child and the therapist
- The most important immediate outcome is communication
- Fine tuning interventions to child needs and characteristics can improve outcomes, but only when the core of the intervention is working.
References


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