A Menu of Evidence-Supported Treatments for Aphasia

Jacqueline Hinckley, Ph.D., BC-ANCDS
Board Certified – Neurogenic Communication Disorders
Email: Dr.JJHinckley@gmail.com
www.SLandP.com

© J. J. Hinckley, 2013

Section 1: Foundations and resources for selecting evidence-based treatments

Section 2: Assessments that can help select treatment

Section 3: Selecting from among evidence-supported treatments

© J. J. Hinckley, 2013
Section 1: Foundations and resources for selecting evidence-based treatments

How do we select a treatment type for a person with aphasia?
Start by selecting from a set of evidence-supported treatments...

Why evidence-supported treatments?

• Increase the likelihood that the treatment will achieve the desired outcome
• Reduce disparities between settings and clinicians
• Improve cost-efficiency and value by selecting the “best bet”
A working definition of “evidence-supported treatment”

1. Efficacy (superiority over a placebo) demonstrated in at least two rigorously controlled studies, or
2. Equivalence to a well-established treatment, in several well-controlled studies, or
3. Efficacy in a large series of single case controlled studies

(Chabless & Hollon, 1998)

In addition, the American Psychological Association requires that an intervention on their list of “empirically-supported treatments” have a manual available that clearly operationalizes the procedures and guidelines for the practitioner.
For this presentation:

The criterion for considering an aphasia treatment evidence-supported was that there was a published review or similar publication demonstrating Class II evidence or greater, and that there were a sufficient number of participants across studies to acknowledge concerns about validity (Hinckley, 2011)

Aphasia treatments that meet these criteria

(Hinckley, 2011; Salter et al, 2012; Allen et al, 2012)

**Oral expression focus**
- Phonological/semantic cueing
- Task-specific training (phonological/semantic cueing)
- PACE
- Verb Network Strengthening Treatment
- Response Elaboration Training
- Constraint-induced aphasia tx
- Melodic Intonation Training
- Semantic Feature Analysis
- Script training
Aphasia treatments that meet these criteria
(Hinckley, 2011; Salter et al, 2012; Allen et al, 2012)

Reading/writing focus
• Multiple Oral Re-reading/ORLA
• Anagram Copy and Recall Treatment

Multi-modality
• PACE
• Task-specific training
• Communication Partner Training
• Spaced retrieval

A word about...
• Group aphasia therapy and Intensive aphasia therapy
  – Also meet the “evidence-supported” criteria
• These are “delivery formats” rather than treatment content/procedures
• Content/procedures within each of these can vary
• That’s why they’re not on this list!
How to select among the treatments?

- Aphasia type or severity?
- Specific impairment?
- Cognitive abilities?
- Functional goals?

Can we select treatments based on aphasia type?

- Most type-specific treatments do not have sufficient evidence to stand up to criterion for evidence-supported treatments, for example:
  - Treatment of Wernicke’s Aphasia
  - Context-focused treatment for Wernicke’s aphasia
  - Treatments for global aphasia

(Salter et al, 2012)
Exceptions exist:

- For example: Melodic Intonation Therapy

Treatments specific to an aphasia type or severity level

- May not be studied sufficiently to reach “evidence-supported” status
  - Limited scope
- May not be sufficiently tailored to the more specific impairments that are driving clinical outcomes
  - Individual variation for language processing occurs within any given aphasia type
“...selecting a treatment on the basis of a syndrome diagnosis is likely to overlook crucial individual differences. Rather, finer-grained decisions need to be made, for instance about the person’s priorities for therapy and the processing impairments that contribute to their problems. In an ideal world, this level of assessment should enable the clinician to turn to evidence-based treatment approaches that address their client’s particular symptoms.”

Marshall, 2010, p. 411
© J. J. Hinckley, 2013

For example, some treatments that initially targeted one aphasia type, are also effective for others

• Response Elaboration Training
  – Initially focused on nonfluent aphasia
  – Expanded to other types, severities, apraxia

• Semantic Feature Analysis
  – Initially focused on fluent-type aphasia

© J. J. Hinckley, 2013
So, specific language processing aspects may be more important than aphasia type diagnosis

How to select among the treatments?

- Aphasia type or severity? NOT ALONE
- Specific language processes? ✔
- Cognitive abilities?
- Functional goals?
Role of cognition in aphasia therapy

• Several studies have found that aspects of cognitive performance may predict language treatment outcome (van de Sandt-Koenderman et al, 2008)
  – Executive function measures (e.g., WCST, RCPM) (Lambon-Ralph et al, 2010; Fillingham et al, 2005a, 2005b, 2006; Hinckley & Carr, 2001)
  – Memory functions (episodic-recognition task, Rey Complex Figure) (Goldenberg et al 1992, 1994)

TABLE 4
Correlation results for therapy gain and background assessments

<table>
<thead>
<tr>
<th></th>
<th>Immediately post-therapy</th>
<th>Follow up testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BNT</td>
<td>0.68**</td>
<td>0.62**</td>
</tr>
<tr>
<td>PPT</td>
<td>0.61**</td>
<td>0.46**</td>
</tr>
<tr>
<td>Word repetition (PALPA 9)</td>
<td>0.26 ns</td>
<td>0.12 ns</td>
</tr>
<tr>
<td>Word reading (PALPA 31)</td>
<td>0.71**</td>
<td>0.60**</td>
</tr>
<tr>
<td>Elevator counting task</td>
<td>0.26 ns</td>
<td>0.10 ns</td>
</tr>
<tr>
<td>Elevator counting with distraction</td>
<td>0.48**</td>
<td>0.47**</td>
</tr>
<tr>
<td>WCST</td>
<td>0.30±</td>
<td>0.17 ns</td>
</tr>
<tr>
<td>Rey Figure copy</td>
<td>0.33*</td>
<td>0.34*</td>
</tr>
<tr>
<td>Rey Figure immediate recall</td>
<td>-0.03 ns</td>
<td>-0.02 ns</td>
</tr>
<tr>
<td>Rey Figure delayed recall</td>
<td>0.41*</td>
<td>0.46**</td>
</tr>
<tr>
<td>Factor 1: Cognitive</td>
<td>0.48**</td>
<td>0.46*</td>
</tr>
<tr>
<td>Factor 2: Phonological</td>
<td>0.47**</td>
<td>0.37*</td>
</tr>
</tbody>
</table>

Lambon-Ralph et al, 2010
John

- 44 year old right handed gentleman
- Single left hemispheric CVA 9 months prior to study
- Transcortical sensory aphasia
- College-educated
- Lived at home with wife, toddler
- Previous occupation in technology

Helen

- 56 year old right handed woman
- Single left fronto-parietal CVA 15 months prior to study
- Anomic aphasia
- Right hemiparesis
- Some college
- Lived at home with retired husband
- Active, otherwise healthy

John

- Given electronic device
- Learned to use it quickly
- Generated his own ideas about novel ways to use the device

Helen

- Complained of being unable to call her friends’ or neighbors’ names
- We determined through assessment that she could reliably and accurately match written names to faces, including over sessions
- We thought we could use this to her advantage
More about Helen...

- Remembering names while walking the dog...
- List of neighbor’s names on a “cheat sheet”
- Carried card in her pocket
- Able to accurately use names with this strategy

How about retrieving names at a club meeting...

- She doesn’t know how to go about it!
- Trained the same strategy as it would apply to this new situation.
- Once she “got the hang” of using the same strategy in more than one situation, she was able to do this when introduced to a new strategy (like reading: recipes, newspaper)
Transfer did not occur “spontaneously”, even in a client with a relatively mild aphasia.

In spite of training that was highly situation-specific, the client did not perceive the similarities between the training context and a new, highly similar context.

Therefore, she was unable to use a learned strategy in a new, similar situation.

In contrast, John was able to quickly identify new contexts in which he could use a strategy.

<table>
<thead>
<tr>
<th>Assessment measure</th>
<th>John</th>
<th>Helen</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDAE Profile</td>
<td>Transcortical Sensory Aphasia</td>
<td>Anomic Aphasia</td>
</tr>
<tr>
<td>BDAE Severity Rating</td>
<td>3/5</td>
<td>4/5</td>
</tr>
<tr>
<td>Auditory sentence-picture matching (PALPA)</td>
<td>70%</td>
<td>90%</td>
</tr>
<tr>
<td>Boston Naming Test</td>
<td>10/60 (18%)</td>
<td>15/60 (25%)</td>
</tr>
<tr>
<td>CADL-2</td>
<td>98%</td>
<td>98%</td>
</tr>
<tr>
<td>Visual cancellation</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Object recognition subtest of RBMT (immed)</td>
<td>100%</td>
<td>55%</td>
</tr>
<tr>
<td>Face recognition subtest of the RBMT (immed)</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Visual perception (Developmental Visual Perception Test)</td>
<td>100%</td>
<td>90%</td>
</tr>
<tr>
<td>Raven’s Coloured Progressive Matrices</td>
<td>97%</td>
<td>92%</td>
</tr>
<tr>
<td>Wisconsin Card Sort</td>
<td>5 categories learned</td>
<td>0 categories learned</td>
</tr>
</tbody>
</table>
How to select among the treatments?

- Aphasia type or severity? NOT ALONE
- Specific language processes? ✔
- Cognitive abilities? ✔
- Functional/personal goals?
An Evidence-Based Definition of Patient-Centered Care in Stroke

(Lawrence & Kinn, 2011)

1. Identifies individual’s communication skills and uses appropriate and effective communication strategies in all interactions between health-care professionals and the individual
2. Identifies outcomes that are valued and prioritized by individuals
3. Identifies outcomes that reflect the desired quality of participation
4. Monitors and measures outcomes that are valued and prioritized by individuals
5. Uses all of this information to inform the patient/provider clinical decision-making process

• Overlaps with life participation approach (LPAA Project Group, 2001; Chapey et al, 2001)
• Assessment includes relevant life participation needs and discovering competencies
• Intervention includes facilitating the achievement of life goals
• Intervention routinely targets environmental factors outside of the individual

© J. J. Hinckley, 2013
Improving the ability to do personally relevant activities helps to increase the likelihood that the activity will be maintained.
Integration of evidence, client’s values, and clinician expertise

“…a clinician's task is to interpret best current evidence from systematic research in relation to an individual client/patient, including that individual's preferences, environment, culture, and values regarding health and well-being. Ultimately, the goal of EBP is providing optimal clinical service to that client/patient on an individual basis. Because EBP is a continuing process, it is a dynamic integration of ever-evolving clinical expertise and external evidence in day-to-day practice.”

http://www.asha.org/members/ebp/intro/

How to select among the treatments?

- Aphasia type or severity? NOT ALONE
- Specific language processes? ✔
- Cognitive abilities? ✔
- Functional/personal goals? ✔

© J. J. Hinckley, 2013
Identifying personally relevant goals:
How can we ask clients about their goals?

- ICF Checklist
- LIV interview
- Key Life Activities
- Goal Attainment Scaling

Tools: ICF Checklist

Appendix 2:
GENERAL QUESTIONS FOR PARTICIPATION & ACTIVITIES

The following probes are proposed as a guide to help the examiner when interviewing the respondent about problems in functioning and life activities, in terms of the distinction between capacity and performance. Take into account all personal information known about the respondent and ask any additional probes as necessary. Probes should be rephrased as open-ended questions if necessary to elicit greater information.
Under each domain there are two kinds of probes:

The first probe tries to get the respondent to focus on his or her capacity to do a task or action, and in particular to focus on limitations in capacity that are inherent or intrinsic features of the person themselves. These limitations should be direct manifestations of the respondent’s health state, without the assistance. By assistance we mean the help of another person, or assistance provided by an adapted or specially designed tool or vehicle, or any form of environmental modification to a room, home, workplace and so on. The level of capacity should be judged relative to that normally expected of the person, or the person’s capacity before they acquired their health condition.

Example 1

IV. Interpersonal Interactions

(Capacity)

(1) In your present state of health, how much difficulty do you have making new friends, without assistance?

(2) How does this compare with someone, just like yourself only without your health condition?

(Or: "…than you had before you developed your health problem or had the accident")
Example 1: Interpersonal Interactions

(Performance)

(1) In your present situation, how much of a problem do you actually have making friends?

(2) Is this problem making friends made worse, or better, by anything (or anyone) in your surroundings?

(3) Is your capacity to make friends, without assistance, more or less than what you actually do in your present surroundings?
Tools: ICF Checklist

PART 2: ACTIVITY LIMITATIONS & PARTICIPATION RESTRICTION

- Activity is the execution of a task or action by an individual. Participation is involvement in a life situation.
- Activity limitations are difficulties an individual may have in executing activities. Participation restrictions are problems an individual may have in involvement in life situations.

The Performance qualifier indicates the extent of Participation restriction by describing the person's actual performance of a task or action in his or her current environment. Because the current environment brings in the societal context, performance can also be understood as "involvement in a life situation" or "the lived experience" of people in the actual context in which they live. This context includes the environmental factors— all aspects of the physical, social and attitudinal world that can be coded using the Environmental. The Performance qualifier measures the difficulty the respondent experiences in doing things, assuming that they want to do them.

The Capacity qualifier indicates the extent of Activity limitation by describing the person's ability to execute a task or an action. The Capacity qualifier focuses on limitations that are inherent or intrinsic features of the person themselves. These limitations should be direct manifestations of the respondent's health state, without the assistance. By assistance we mean the help of another person, or assistance provided by an adapted or specially designed tool or vehicle, or any form of environmental modification to a room, home, workplace etc. The level of capacity should be judged relative to that normally expected of the person, or the person's capacity before they acquired their health condition.
<table>
<thead>
<tr>
<th>First Qualifier: Performance</th>
<th>Second Qualifier: Capacity (without assistance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent of Participation Restriction</td>
<td>Extent of Activity limitation</td>
</tr>
</tbody>
</table>

0 No difficulty means the person has no problem.

1 Mild difficulty means a problem that is present less than 25% of the time, with an intensity a person can tolerate and which happens rarely over the last 30 days.

2 Moderate difficulty means that a problem that is present less than 50% of the time, with an intensity, which is interfering in the persons day to day life and which happens occasionally over the last 30 days.

3 Severe difficulty means that a problem that is present more than 50% of the time, with an intensity, which is partially disrupting the persons day to day life and which happens frequently over the last 30 days.

4 Complete difficulty means that a problem that is present more than 95% of the time, with an intensity, which is totally disrupting the persons day to day life and which happens every day over the last 30 days.

8 Not specified means there is insufficient information to specify the severity of the difficulty.

9 Not applicable means it is inappropriate to apply a particular code (e.g. b650 Menstruation functions for woman in pre-menarche or post-menopause age).

<table>
<thead>
<tr>
<th>Short List of A&amp;P domains</th>
<th>Performance Qualifier</th>
<th>Capacity Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>d3. COMMUNICATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d310 Communicating with -- receiving -- spoken messages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d315 Communicating with -- receiving -- non-verbal messages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d330 Speaking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d335 Producing non-verbal messages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d350 Conversation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>