TREATMENTS THAT WORK FOR BOTH DEMENTIA AND APHASIA

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Purpose

- 3 intervention approaches for persons with language and cognitive impairments due to stroke and dementia will be presented.
  
  - Conversational approaches
  
  - Carer training approaches
  
  - Spaced Retrieval Training (SRT)
Aphasia Framework for Outcome Measurement (A-FROM)

Severeity of Aphasia

Participation (& activities)

Personal, emotional & identity factors

Environment (as support or barrier)

Life

Severity of Aphasia

(Kagan & Simmons-Mackie, 2008)
Incorporating the ICF (WHO, 2001)  
(Kagan & Simmons-Mackie, 2008)

- Our services extend beyond managing the impairment to address real-life participation.

- The importance of context is recognized, 
  - within the individual (personal factors)
  - external to the individual (environment factors, both physical and social)
Using the social model: Conversational approaches for aphasia & dementia (Simmons-Mackie, 2008)

- Increasing successful participation in authentic contexts/communication events

- Providing communicative support systems within the speaker’s community

- Promoting advocacy and social action
Conversational Approaches
(Simmons-Mackie, 2008)

- Enhancing/expanding communication
  - Dual goals of transaction/interaction
  - Communication as dynamic, flexible, multidimensional
  - Communication is collaborative and conversational
Carer frustrations with communication
(Bourgeois & Hickey, 2009)

- Do not understand the communication problems associated with aphasia or dementia

- Do not have the skills needed to prevent or repair communication breakdowns.

- Do not have the skills needed to improve or maintain participation in various life domains.
Education:

- Cognitive and communicative deficits and strengths of the person
  - Person with Aphasia: as the condition resolves
  - Person with Dementia: as the disease progresses
Roles of the SLP with caregivers of persons with aphasia or dementia (Bourgeois & Hickey, 2009)

- **Support:**
  - Recognize other psychosocial and emotional needs of caregivers and make recommendations for other services, including community resources.
Roles of the SLP with caregivers of persons with aphasia or dementia (Bourgeois & Hickey, 2009)

- Training:
  - Specific strategies and techniques for supporting and maintaining/improving satisfying conversations, social roles, and life participation and for modifying related problem behaviors.

→ from diagnosis through chronic phases
Models of caregiver interventions
(Bourgeois & Hickey, 2009)

- Wide range of intervention models
  - Generic educational approaches
  - Support and counseling approaches
  - Communication-specific training approaches
Training Conversation Partners/ Carers

- Train staff, family, friends, volunteers in order to...
  - Improve communication environment
  - Increase use of compensatory communication/memory strategies
  - Improve carryover
  - Enhance participation in communication/social situations/activities
Measuring treatment outcomes

- Use qualitative and quantitative measures

  - Quantitative examples
    - Language output: amount and type (# number of words produced; # of on topic statements);
    - Pragmatic language – turn taking, initiations
    - Engagement (Orsulic-Jeras, Judge & Camp, 2000); # of times each person participates

  - Qualitative examples
    - Perceptions of affect, nonverbal communication (observations, reports from caregivers)
    - Perceptions of hope, quality of life, satisfaction
CONVERSATIONAL TREATMENTS FOR DEMENTIA
Conversational approaches

- Naturally occurring, ecologically valid contexts for communication
- Purposes are similar for individuals with aphasia and dementia
  - Opportunity for social interaction
  - Opportunity to demonstrate preserved language & cognitive abilities, & social roles
  - Opportunity to practice using communication strategies (clients and communication partners/caregivers)
Conversation and individuals with dementia

- Opportunities for social interaction may be limited and often need to be created

- Conversations should be structured to
  - maximize positive emotions, language, behavior
  - capitalize on spared abilities & personal interests

- Focus on conversation groups
  - Context
  - Clinician Strategies
  - Examples
  - Evidence
Context is key

Create context to
- reduce demands on impaired episodic & working memory,
- facilitate recognition,
- stimulate spared semantic & procedural memories,
- stimulate preserved reading ability,
- maintain social roles
Creating Context

- Reminiscence Therapy (Petryk & Hopper, 2010; Pimentel, 2010)
- Memory Books and Reminder Cards (Bourgeois, 2007)
- Montessori Activities (Camp et al., 1997; Judge et al., 2000)
- Book clubs
  - Dementia-specific reading materials (Camp & Skrajner, 2004)
  - Question-Asking Reading (Stevens et al., 1998)
- Role Maintenance using visual cues (Dijkstra et al. 2006)
- Clinician Questions (Arkin, 2005)
Reminiscence therapy: Multi-Sensory Input

- An activity/intervention in which individuals reflect upon the past in a structured setting
- Group RT sessions typically involve props to create context
- The context is related to a theme (e.g., work, vacations, music, marriage)
- Facilitator asks questions about the theme while engaging participants in the props
Reminiscence stimulates Memory

- Reminiscence involves conversations of events from the individual’s remote past
- *Reminiscence Bump:* The disproportionately higher recall of early-life memories by older adults
- Reminiscence capitalizes on spared memory abilities, reveals personal history, and may enhance caregiver empathy, facilitating a personhood approach to caring
Possible reminiscence props

- **Music** – from certain eras; favorite singers or kinds of music; sing alongs
- **Aromas** – baking bread, mother’s favorite perfume
- **Pictures** – photographs of work environments or favorite places
- **Written materials** – pamphlets, song lyrics, greeting cards & letters
- **Objects** – butter churner, old style scales from confectionary store

Consider sensory abilities, culture, personal history
Reminiscence Example
(Rainbow, 2003)

- Bob often spoke about when he was a young man, just starting work, still living with his parents

- **Theme** of work was ideal; memories that gave him the most pleasure were those about his father’s love of model railways

- **Props**: sound recordings of train whistles, photos of old train stations, signal boxes, steam trains; old train timetables; loan of model railway from local museum
Evidence for Reminiscence therapy
(Kim et al., 2006)

- Systematic review of the evidence and outcomes associated with group RT
- Generally, outcomes were positive for people with moderate-severe dementias:
  - maintenance over time in cognitive abilities (memory)
  - improved affect
  - fewer problem behaviours
External memory & communication aids
(Bourgeois & Hickey, 2009)

- Graphic and Written Cues:
  - To enhance conversation
  - To reduce repetitive verbal behaviors
    - Memory Wallets and Memory Books (Bourgeois, 1990; 1992)
    - Index Cards & memo boards (Bourgeois et al., 1997)
    - Reminder cards (Bourgeois, 2007)
Memory Books and wallets  (Bourgeois, 2007)
Index Card/Reminder Cards, Memo Boards
(Bourgeois, 2007)

Good morning, Mom!

It is Tuesday and I am at work.
I’ll be home for lunch at 11:30.

Watch TV
Fold the laundry.

Love,
Jane
Reminder Cards: Helpful hints
(Bourgeois, 2007)

- **Print a clear message**
  - Use large print; Use a few, simple, positive words.

- **Make the message personal**
  - Use personal pronouns (I, my, we) in the message.

- **Read the message aloud**
  - If there are reading errors, change the message.
Making Wearable Memory/Communication Aids
(Bourgeois, Dijkstra, & Hickey, 2007)
Activity Modifications
(Bourgeois, 2001; Bourgeois & Hickey, 2009; Eisner, 2001)

- Use strengths and interests of individual

- Modify according to cognitive and communication strengths and needs
  - e.g., Bridge player → Crazy 8s → sort cards by color
  - e.g., knitting/sewing → sorting fabric, easy “sewing” with ribbons or yarn

- Use Montessori techniques
Montessori-Based Activities
(Camp and colleagues, 1997)

- Montessori activities were originally developed for children and include materials and tasks that require active participation
  - promotes learning through procedural memory system,
  - utilizes concrete everyday stimuli to facilitate action and memory
  - reduces demands on episodic and working memory by using structured tasks and repetition

- Camp and colleagues (1997) pioneered the use of Montessori principles with AD patients
Book Clubs: Dementia-specific reading materials

Hearthstone Readers, Hearthstone Foundation, Woburn, MA

Lydia Burdick, Health Professions Press
Question- Asking Reading
(Stevens et al., 1998)

- Participants each have copy of book
- Participants read aloud, taking turns by paragraph
- Participants take turns reading Question cards and finding answers in text
- Results: Improved engagement & satisfaction with activity
- Persons with dementia lead activity; no staff required (Camp & Skrajner, 2004)
Clinician Questions:
Personal Identity and Role Maintenance

- **Pros and Cons** (Arkin, 2005)
- Ask the client what is good/bad about selected topics
  - Watching television, Pantyhose, Visiting relatives
  - Shoplifting, Assisted Suicide, Medical Marijuana

- **Advice and opinion scenarios** (Dijkstra et al., 2006)
  - What advice can you give me about... Marriage? Raising kids? Buying a car?
Teaching others to make a recipe: each step accompanied by a picture and written cue.

(Dijkstra et al., 2006)
Question asking strategies

- Questions should reduce demands on episodic memory – yes/no, choice
- Use open-ended questions that tap into semantic memory
  - EM: When did you retire?
  - SM: How do you like retirement?
  - EM: When did you go to Italy?
  - SM: What do you think of Italy?
Evidence for open-ended questions in conversation

- Positive language output and successful communication interactions when using open-ended questions
  - designed to elicit feelings, opinions and conceptual, factual information
    (Dijkstra et al., 2006; Tappen et al., 1997; Small & Perry, 2005; Petryk & Hopper, 2010)

- Pair with written and graphic cues to aid in context setting and recall
TRAINING FOR CARERS OF PERSONS WITH DEMENTIA

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Frustrations with communication
(Bourgeois & Hickey, 2009)

- Do not understand the communication problems associated with dementia
- Do not have the skills needed to prevent or repair communication breakdowns.
Carers need assistance to understand:

(Bourgeois & Hickey, 2009)

- The progressive decline in communication skills over the course of dementia
- The impact of communication and memory deficits on problem behaviors
- Strategies to ease the stress and burden of impaired communication
Carer Training Programs
(Bayles & Tomoeda, 1993; Hopper, 2001)

- Persons with dementia cannot purposefully modify their communication behaviors
- The success of interactions depends upon carers’ modifications of their own behavior
- Strategies are recommended because they reduce demands on impaired systems and/or capitalize on relatively spared ones
Matching intervention to need
(Bourgeois & Hickey, 2009)

- Must match the most effective intervention components to the particular needs of specific carers.

- Avoid providing unnecessary or ineffective components.

- Too many choices may overwhelm carers or lead to nonuse of services.
Significant benefits in carer psychological distress and carer knowledge, particularly when:
- the care-recipients were involved in the intervention (i.e., when carers learned how to modify behaviors)
- programs were more intensive
- programs were tailored to carers’ needs
The interplay of two types of communication strategies (Small, 2009)

- Compensatory strategies
  - Accommodate to another person’s communication challenges by modifying one’s language and the context of communication (see comprehensive reviews in Bourgeois & Hickey, 2009; Bayles & Tomoeda, 2007)

- Relational/Connecting strategies
  - Reach out and acknowledge a person’s competence and abilities, and share experiences together
Connecting strategies
(Small, 2009)

- Core strategies:
  - Encourage and invite (rather than ignore)
  - Respect (No patronizing speech, limited interruptions, guidance and choice rather than directives)
  - Validate

- Guidelines for Having a Satisfying Conversation
  (Bourgeois, 2007):
  - Ask permission, guide, redirect, reassure, smile & act interested, thank the person
  - Do not quiz, do not correct or contradict
Rank order of most frequently recommended communication strategies (Small & Gutman, 2002)

1. Use short simple sentences.
2. Speak slowly.
3. Ask one question or give one instruction at a time.
4. Approach slowly and from the front; establish and maintain eye contact.
5. Eliminate distractions (e.g., tv, radio)
6. Avoid interrupting the person; allow plenty of time for responding
7. Use yes/no rather than open-ended questions.
8. Encourage circumlocution during word finding problems
9. Repeat messages with the same wording.
10. Paraphrase repeated messages
Carer strategy: 
Decision-making “Menus”

- Persons with dementia should be involved in decision-making in day-to-day life
  - Eating, sleeping, leisure and exercise, etc.
  - Medical: end-of-life choices, medications, etc.
Advanced Directives (Allen et al., 2003)

- **Capacity ax**
  - Most residents able to state simple tx preferences
  - Many did not have capacity to understand tx alternatives or consequences of tx choices

- Need to address proxies’ beliefs, and residents’ decisional capacity and social engagement

- Should reduce reliance on memory in ax of capacity process

- Interventions are needed to engage residents and families in end-of-life planning
Environmental Modifications
(Bourgeois & Hickey, 2009)

- Physical environment
  - Lighting
  - Sound
    - Reduce noise
    - Ensure hearing aids are working
  - Signs/cues
  - Furniture arrangement
  - Murals on doors/windows

- Natural environment
  - Animals
  - Plants
Eating/Swallowing Problems

- Give real dishes, silverware
- Remove trays
- Present items individually in small portions
- Use mixture of temperatures (and textures if not orally defensive)
- Give items that look like real food
- Label items
- Provide written cues (e.g., on separate cards – “Open your mouth” “Chew” “Swallow”)
- Allow to eat alone as needed
- Eat “by the way” or cocktail party approach
- Comfort tray - selection of fluids, jello, etc.
Internet resources for family caregivers

- Area Agency on Aging:  [www.n4a.org](http://www.n4a.org)
  - Source for eldercare local community services: [www.n4a.org/locator](http://www.n4a.org/locator)
- Administration on Aging:  [www.aoa.gov](http://www.aoa.gov)
- Alzheimer’s Association:  [www.alz.org](http://www.alz.org)
- Alzheimer’s Foundation of America:  [www.alzfdn.org](http://www.alzfdn.org)
- ADEAR (Alzheimer Disease Education and Referral Center):  [www.alzheimers.org](http://www.alzheimers.org)
- American Geriatrics Society:  [www.americangeriatrics.org](http://www.americangeriatrics.org)
Internet resources for family caregivers

- Online Caregiver magazine:  www.caregiver.com
- Dementia Guide- Helping people affected by dementia:  www.dementiaguide.ca/
- Medline Plus:  
- Source of large-print and adaptive household and leisure materials:  www.eldercorner.com
- Source of Video Respite tapes and other Alzheimer related materials:  www.healthpropress.com
Online Support Groups

- Alzheimer’s Association Online Community: http://alzheimers.infopop.cc/eve
- AlzOnline: http://alzonline.phhp.ufl.edu/
- Alzheimer’s Spoken Here: http://alzsh.net/
- Empowering Caregivers: http://www.caregivers.com/
- Elder Care Online: http://www.ec-online.net/
- National Family Caregiver Support program: www.fullcirclecare.org
CONVERSATIONAL INTERVENTIONS: APHASIA

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Defining conversational treatments in aphasia

Participation in Conversation → Participation in Conversation

↑

Impairments (lexical-semantic retrieval, syntactic, graphic)

↓

Impairments (lexical-semantic retrieval, syntactic, graphic)
**Overview**

A conversational treatment in which any modality can be used to communicate ideas from one partner to the other. The client and clinician take equal turns in the sender and receiver roles, and this promotes conversational participation.

**Candidacy**

Procedures can be adapted to specific linguistic impairments, thus people with a variety of types and severities of aphasia can benefit from this treatment.
Promoting Aphasics’ Communicative Effectiveness (PACE)  
(Davis & Wilcox, 1978)

**Goals & Expected Outcomes**

Use appropriate communication modalities (speaking, writing, drawing, gesturing, communication notebook or other AAC strategies) to effectively participate as sender and receiver.

**Procedures**

1. The clinician and client exchange new information.
2. The clinician and client participate equally as senders and receivers of messages.
3. The client has a free choice as to the communicative modes used to convey a message.
4. The clinician’s feedback as a receiver is based on the client’s success in conveying the message.
Advantage of modelling

Gives clinician the opportunity to model relevant communication behavior

Cognitive requirement

Probably requires relatively good cognitive abilities, like executive functions, for client to achieve independent success in transferring the targeted strategies to a variety of communication settings.
Response Elaboration Training
(Kearns, 1985; Conley & Coelho, 2003)

Overview
A type of “loose training” which works to improve lexical retrieval and the number of content words produced by an individual with aphasia. Forward chaining, or elaboration, of the client’s utterances is used.

Candidacy
A person with aphasia who can benefit from expanding content in conversation; effectiveness shown across types of aphasia including those with aphasia and apraxia.
Response Elaboration Training

Goals & Expected Outcomes

Improve verbal production in conversation; increase number of content words in conversation; improve word retrieval in conversation; support generalization of expanded utterances across contexts and conversational partners.

Procedures

1. Elicit initial verbal response to picture
2. Reinforce, model, and shape initial response
3. Wh- cue to elicit elaboration of initial response
4. Reinforce, model, and shape the two patient responses combined
5. Second model and request repetition
6. After reinforcement elicit delayed initiation of the combined response.
As stated by Wambaugh and Martinez (2000, p. 614), “there is more empirical support for the use of RET than for the majority of aphasia treatments”.

Hinckley & Schatz 2010
FOLLOWING THE RED CROSS—By Elizabeth Frazer
<table>
<thead>
<tr>
<th>RET Steps</th>
<th>Clinician’s stimulus</th>
<th>Patient’s response</th>
<th>Clinician feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Elicit initial verbal response to picture</td>
<td>Line drawing of simple event (man with a broom) “Tell me what’s happening in this picture.”</td>
<td>“Man…sweeping”</td>
<td></td>
</tr>
<tr>
<td>2. Reinforce, model, and shape initial response</td>
<td></td>
<td></td>
<td>“Great. The man is sweeping”</td>
</tr>
<tr>
<td>3. Wh-cue to elicit elaboration of initial response</td>
<td>“Why is he sweeping?”</td>
<td>“Wife…mad!”</td>
<td></td>
</tr>
<tr>
<td>4. Reinforce, model, and shape the two patient responses combined</td>
<td></td>
<td></td>
<td>“Way to go! The man is sweeping the floor because his wife is mad.”</td>
</tr>
</tbody>
</table>
Reciprocal Scaffolding
(Avent & Austerman, 2003; Avent, Patterson, Lu & Small, 2009)

Overview

Based on an apprenticeship model, communication abilities are embedded in activities that are personally relevant and meaningful to the individual with aphasia.

Candidacy

Individuals with different types and severities of aphasia may be able to benefit.
Reciprocal Scaffolding

**Goals & Expected Outcomes**

Improved content and fluency in conversation, particularly communication that is embedded within personally meaningful contexts. Variety of vocabulary, increase in content in oral written language, and improved life participation, can be expected.

**Procedures**

- The client and clinician select a personally meaningful context (activity)
- Scaffolding techniques are embedded within the activities that facilitate communication. In addition, practice doing the activity fosters expressive abilities and life participation.
<table>
<thead>
<tr>
<th>Overview</th>
<th>Candidacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A co-constructed monologue or dialogue, pertaining to a communication topic or situation that is important to the person with aphasia, is practiced intensively.</td>
<td>Effective for a number of different types and severities of aphasia.</td>
</tr>
</tbody>
</table>
Goals & Expected Outcomes

Fluency of production for the trained script; fluency of production and generalization of particular forms to other contexts; improved social interaction.

Procedures

- The client and clinician collaboratively determine the type of script that would be most useful and meaningful to the client. This could be a monologue.
- The clinician and client practice the script until the client is able to produce phrases within the script independently.
- The script is then practiced repetitively by the client.
- Practice contexts in which the person with aphasia can use the script are created.
<table>
<thead>
<tr>
<th>Step 1. Select topic and draft target script.</th>
<th>The client selects the topic for the script, with collaboration from the clinician. The clinician and client work collaboratively to produce target script.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2. Begin training – phrase repetition, choral reading with clinician, independent training.</td>
<td>Client practices first phrase. When client can produce phrase accurately 20 consecutive times, add next phrase. Continue.</td>
</tr>
<tr>
<td>Step 3. Client practices independently for at least 15 minutes per day.</td>
<td>Client can be given audiotapes or other assists for independent practice.</td>
</tr>
<tr>
<td>Step 4. Practice using script in appropriate social situations.</td>
<td>These should be facilitated initially by the clinician.</td>
</tr>
<tr>
<td>Script theme</td>
<td>No. of monologues</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Stories from life</td>
<td>19</td>
</tr>
<tr>
<td>Story of my stroke</td>
<td>12</td>
</tr>
<tr>
<td>Introducing me to others</td>
<td>3</td>
</tr>
<tr>
<td>Prestroke story</td>
<td>3</td>
</tr>
<tr>
<td>Retelling an impersonal story or event</td>
<td>1</td>
</tr>
<tr>
<td>Prayers, testimonials, speeches, and lectures</td>
<td>6</td>
</tr>
<tr>
<td>Outside interests</td>
<td>2</td>
</tr>
<tr>
<td>Making plans</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
</tr>
</tbody>
</table>

From: Holland, Halper & Cherney (2010)
<table>
<thead>
<tr>
<th>Script theme</th>
<th>PWA-R</th>
<th>PWA-I</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversations with family</td>
<td>4</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Seeking or providing information</td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>About strangers</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>About family</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From salespeople</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Asking/answering questions</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Outside interests</td>
<td>6</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Ordering in a restaurant</td>
<td>7</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Phonning</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Conversations with others</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Stories from life</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Present life</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Prestoke</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Retelling an impersonal story or event</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Work talk</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Making plans</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32</td>
<td>40</td>
<td>72</td>
</tr>
</tbody>
</table>

*Note.* PWA-R = person with aphasia as the respondent of the dialogue; PWA-I = person with aphasia as the initiator of the dialogue.
Aphasia Book Clubs

- Designed to facilitate social interaction and reading for pleasure
- Modelled after other community book clubs
- Aphasia-friendly materials support reading comprehension and discussion
Aphasia Book Clubs: Candidacy

- Able to read at the multi-paragraph level
- Desire to participate; desire to read for pleasure
Outcomes of Aphasia Book Clubs can include:
- Improved reading pleasure; improved participation in hobby
- Improved perceived wellness
- Improved social interaction/reduced social isolation
- Although Aphasia Book Clubs target social interaction and reading for pleasure, improvements on measures of reading impairment have been observed
Principles in common among the treatments

- Conversational improvements that come as a result of the treatment are specifically linked to the conversational practice that makes up the treatment;
- The clinician plays the role of a conversational partner and coach, in accordance with principles of the life participation approach to aphasia;
Principles in common among the treatments

- Priorities for conversational topics are determined by the client and thus reflects the client’s values;
- Conversational topics are co-constructed by the client and the clinician;
- As in all conversation, the exchange of information collaboratively is the goal and purpose. Successful interaction and transmission of information are the rewards.
Conversation and aphasia

- The person with aphasia is acknowledged and assumed to be someone with the cognitive and pragmatic ability to participate in conversation.
COMMUNICATION PARTNER TRAINING: APHASIA
Communication Partner Training (CPT)

- Training any communication partner with strategies designed to improve the communication participation and effectiveness of adults with aphasia (Turner & Whitworth, 2006, among others)

- Results in improved communicative access and participation for adults with aphasia

- Training partners may result in direct improvement in the communication behavior of the adult with aphasia (Simmons-Mackie et al, 1987)
Compendium of EBP Guidelines and Systematic Reviews

In the summer of 2005, staff of ASHA's National Center for Evidence-Based Practice in Communication Disorders (N-CEP) embarked upon a project to identify and obtain clinical practice guidelines from all over the world related to audiology and/or speech-language pathology. As noted elsewhere on this site, clinical practice guidelines, when tied directly to a systematic review of scientific evidence, can be an invaluable tool in helping clinicians to make the best decisions with and for their clients. Learn more about the N-CEP Compendium.

Search Tip - To see the listing of available titles, simply click on a corresponding link next to each keyword. Once the search results page is displayed, click on the desired document title to view N-CEP's assessment of that particular article. You may also view all systematic reviews and all clinical practice guidelines that have been evaluated.

A
Acute Care Facilities
ADHD
Adults
Alzheimer's Disease
Amplification
Amyotrophic Lateral Sclerosis
Anomia
Aphasia
Apraxia

Guidelines
Systematic Reviews
Guidelines
Systematic Reviews
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www.asha.org
Which people with aphasia are likely candidates for CPT?

- Although often thought of for individuals with more severe impairments, can be useful for even mild aphasia
- Often used in post-acute and chronic stages of aphasia
Who are communication partners?

- Communication partners can be:
  - Family members
  - Friends, neighbors
  - Volunteers
  - Health care professionals, including doctors, nurses, nursing assistants, other therapists, etc.
Characteristics of communication partners

- When family members or close others, training can be more individual-specific.
- When training individuals who will come into contact with a variety of individuals, more generalized strategies may be appropriate.
Training family members

- Some couples naturally develop communication styles, strategies and techniques that are effective.
- Some couples can be helped to improve effectiveness; other couples have relatively poor styles or communication problem-solving skills and need more training.
Training volunteers or community members

- Some volunteers are relatively good partners, even before training (Simmons-Mackie & Kagan, 1999; Garrett & Huth, 2002; Ramsberger & Menn, 2003)

- Other volunteers are relatively poor partners before training
  - Rigid communication styles
  - Focused on information transmission
  - Pay less attention on the social/interpersonal aspects of the interaction
Important characteristics of potential partners

- Attitudes toward communication
- Nonverbal communication skills: good listening skills, appropriate eye contact, appropriate tone and volume
- Turn-taking: Turn acceptance
- Topic management: topic maintenance, topic acknowledgement, topic exploration, topic relevance
- Repair: Avoids reparining speech problems; encourages multi-modality communication
<table>
<thead>
<tr>
<th>Name of Client:</th>
<th>Name of Partner:</th>
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<td>Date:</td>
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<table>
<thead>
<tr>
<th>Attitudes to Communication</th>
<th>High Candidacy</th>
<th>Low Candidacy</th>
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<tbody>
<tr>
<td>1. motivated to change</td>
<td></td>
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<tr>
<td>2. views conversation as a collaborative act</td>
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<td>3. values the social function of conversation</td>
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<td>4. recognises communication has the potential to change</td>
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<tr>
<td>5. accepts person with aphasia’s communication situation and status</td>
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<tr>
<td>6. accepts multi-modal communication over speech</td>
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</table>
Types of training
(Turner & Whitworth, 2006)

- Supported Conversation for Aphasia
- Conversational Coaching
- Conversational-analysis based training
Supported conversation for adults with aphasia based on the idea that reduced ability and opportunity to engage in conversation affects the way that adults with aphasia are perceived. The less opportunity there is to engage in genuine conversation the less opportunity there is to reveal competence. (Kagan et al., 1995)
Supported Conversation for Adults with Aphasia (SCA™): Two principles

**Acknowledge Competence**

Techniques to help PWA feel competent

**Reveal Competence**

Techniques to give and receive accurate information from PWA
Primary Partner Training at The Aphasia Institute

- Occurs within 12 week Introductory Program
- Post Rehab
- 9+ months post stroke
- Group Intervention
- Ideally each PWA would have a PCP
- Training 4-6 weeks once to twice a week with follow-up opportunities
- Program led by professionals with volunteer support
Conversational Coaching
(Hopper, Holland & Rewega, 2002)

Overview
Effective communication strategies for both the person with aphasia and the primary communication partner are targeted. The clinician acts as a communication strategy coach for both partners (with and without aphasia). The primary communication partner plays an equal role in improving conversation.

Candidacy
Effective for a variety of types and severities of aphasia. Best outcome will be achieved when there is a primary communication partner who is willing and able to learn and maintain communication strategies.
Conversational Coaching

Goals & Expected Outcomes

The desired outcome is the implementation of effective communication strategies in conversation by both the person with aphasia and the primary communication partner.

Procedures

1. Effective strategies for each partner are collaboratively identified.

2. A communication situation is created, such as viewing a short video clip. One partner views the video and рождает. Both partners should be using their identified communication strategies to achieve a collaborative result.

3. The clinician acts as a coach to each of the two partners.
Other training programmes

- Include general education about aphasia
- May include general strategies for communication
- Include partner-specific communication strategies
Outcomes of CPT in aphasia
(reviewed in Turner & Whitworth, 2006)

- Improved interactions, as measured by
  - Reduced interruptions and “test questions” (Simmons et al, 1987)
  - Reduced number of turns in collaborative repair
  - Increased amount of information conveyed
- May improve sense of well-being and confidence for people with aphasia (McVicker et al, 2009)
- Duration of training effects may last weeks to months or more
TREATMENTS THAT WORK FOR DEMENTIA AND APHASIA: SPACED RETRIEVAL TRAINING

Michelle Bourgeois, PhD, CCC-SLP
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What is Spaced-Retrieval?

- Practice at successfully recalling information over progressively longer intervals of time
  - Shaping paradigm applied to memory (Bjork, 1988; Camp & McKitrick, 1992; Landauer & Bjork, 1978)

- Takes advantage of retained Procedural (implicit) Memory
  - Skills and habits (e.g., reading), motor learning

- To teach or re-teach Declarative Memory
  - Episodic: past events, autobiographical information
  - Semantic: world knowledge, concepts, vocabulary
SPACED RETRIEVAL is an Instructional technique

1. Identify a desired goal
   - Fact or strategy to be learned
   - “If you want to know what activities we have planned today, you can come over here and read this schedule.”

2. Develop verbal prompt-response
   - **Prompt**: “Where can you look to find out what is planned for today?”
   - **Response**: “I can go here to read this schedule.”
3. Practice at successfully recalling information over progressively longer intervals of time
   - Immediate recall (repetition), 30 sec, 1 min, 2 min, 4 min, 8 min, 16 min, 24 hours
   - If error occurs, return to previously successful interval

4. During the intervals, engage in
   - General conversation: how have you been, what’s new with you?
   - Different activity: another therapy goal, reading, puzzles, games
   - Future goal discussion: identify other problems to address; plan external aids
The Goal of SR is to enable individuals to remember information for long periods (days, weeks, months, or years) so that individuals can achieve long-term treatment goals.

In addition, SR uses external aids to compensate for memory impairments, for example:

- When is my wife coming? Check my **written card**.
- What do I do today? Check my **written schedule**.
- Do I have an appointment? Check my **calendar**.
- How do I use my walker? Check my **instruction card**.
- What do I do after I take a bite of food? Check the **card on my tray** (that says tuck my chin).
Why Should Spaced-Retrieval Work?

PRIMING: The ability to improve performance after initial exposure to information

OPERANT CONDITIONING: Successful recall elicits intrinsic reinforcement. *It feels good to remember.*

SPACING EFFECT: Information is learned and retrieved more effectively when learning is *distributed rather than massed* (Hillary et al., 2003)

TESTING EFFECT: Testing and re-testing strengthens learning (Karpicke & Roediger, 2007)

And.....
ERRORLESS LEARNING: Client does not have an opportunity to make a mistake

- Client does not struggle to produce the correct response
- Client does not learn the wrong answer.
- Client learns correct response faster!

- Effortful (trial & error) vs. Errorless Learning
  - Errorless is more efficient and produces more accurate learning (Evans et al., 2002)
Comparing instructional strategies

- Spaced Retrieval vs. Cueing Hierarchies
  - Both training strategies resulted in goal mastery within same number of training sessions; but SR was significantly better
  - Significantly more SR goals maintained at 1-wk and 4-months post training (Bourgeois et al., 2003)
Spaced Retrieval has been proven to be effective:

- Across a variety of types of dementia:
  - Alzheimer’s, Vascular, Mixed dementia, Semantic dementia, Parkinson’s dementia, Korsakoff’s, Post-anoxia, HIV-related dementia
- And other etiologies:
  - CVA, Stroke, TBI
- Across a variety of settings:
  - client homes, adult day centers, and skilled nursing facilities, over the telephone
- Across a variety of therapists:
  - speech-language pathologists and physical, occupational, music and art therapists, family, nursing staff

....and for a
.....a variety of goals

- Face-Name associations
- Object-location associations
- New Motor Skills
- Remembering future action (appointments, to pay bills, to take meds)
- Fact Retrieval
  - Names (relatives, therapist, staff, common objects)
  - Locations (residence, room number, bathroom)
  - Important dates (birthday, appointments)
  - Names of Functional objects (brush, comb)
- Strategy Learning
  - Use of Memory Book, calendar, activity agendas, telephone directory, mobile telephone, telephone messages, voice mail
  - Safe Swallowing procedures
  - ADLs (tooth brushing, hair combing, toileting)
  - Use of External Cues
Evidence-Based Practice Review of Spaced Retrieval in Dementia

- Hopper et al. (2005): 13 + 5 studies reviewed
- Class II and Class III evidence only
- Participants – varied characteristics
- Intervention – varied goals, format, dose-response (frequency, intensity, duration)
- Outcomes – time to learn, number & types of cues, maintenance, generalization
- Methodological concerns: lack of randomization, small sample sizes, lack of reliability measures
SR in Aphasia: What’s different?

- **Obvious differences in etiology**
  - Dementia is a degenerative condition with memory and attention deficits; aphasia can be a static condition with various cognitive deficits related to type and severity of aphasia

- **Fewer studies have been conducted**
  - Search revealed 5 studies (Brush & Camp, 1998; Fillingham et al., 2006; Fridriksson et al., 2005, 2006; Morrow et al., 2006)
  - Recent studies contrasted errorless vs. errorful learning approaches (Conroy et al., 2009; McKissock & Ward, 2007)

- **No EBP reviews available**

- **Restricted range of goals investigated**
  - Anomia (picture naming and compensatory strategies for word finding difficulties),
  - Compensatory strategies for dysarthria
Different purposes

- Brush & Camp (1998): 2 patients with CVA
  - CVA + anomia: Strategy goals to use Synonym, or Describe the word
  - CVA + dysarthria: Strategy goals to use voice amplifier, or use eye contact

- Fridriksson et al. (2005): 3 patients with aphasia + mod-severe anomia
  - Compared SR & Cueing Hierarchy strategies for picture naming
  - Fewer SR sessions needed; more words named than CH; better SR retention at 1-week and 3-months post
Morrow et al. (2006): 3 patients with aphasia + anomia
- Investigated fixed- vs. random-interval SR
- 1-, 2-, 4-, 8-, 16-min intervals
- Both treatments were successful but...
- Fewer fixed-interval sessions needed to learn, and more fixed-interval words were maintained at post

Fillingham et al. (2006): 11 patients with aphasia + anomia
- Errorless vs. Errorful learning; both effective but errorless was preferred
- those better at errorful treatment had best working and recall memory, and attention

Fridriksson et al. (2006)
- Pre- and post-SR tx fMRI evidence (bilateral hemispheric recruitment) with improved naming
Conclusions

- More research is needed!
- SR is promising therapy in Aphasia, but more studies are needed to explore potential use with...
  - More subjects
  - other treatment goals (e.g., use of communication book, other compensatory strategies)
  - and other aphasic behaviors (e.g., memory, syntax)
- Comparison studies needed
  - Cochrane Review: Nair & Lincoln (2007) found no evidence for the use of mnemonic or imagery memory training with stroke patients
The Future of SR in Dementia

- More research is underway
  - Investigations of SR variations:
    - elaborated SR,
    - adjusted SR vs. uniform expanded SR
- Class I RCTs needed to provide stronger evidence
CONCLUDING COMMENTS: SIMILARITIES AND DIFFERENCES

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What is a “treatment”?

- Language-Cognitive Profile
- Learning Environment
- Environmental Manipulation
- Goals
Change goals relative to language-cognitive profile

Language-Cognitive Profile

Cognitive impairments: Dementia

Spaced Retrieval

Memory Goal: Recall info

Language Goal: Naming

Language Impairments: Aphasia
Shared goals for Dementia and Aphasia

Life participation outcomes:
- Use meaningful information/strategy
- Conversation and meaningful interaction with important conversational partners
Change procedures relative to language-cognitive profile

Language-Cognitive Profile

Language Impairments: Aphasia

Written choices, support
Multi-modality strategies

Conversation
Change procedures relative to language-cognitive profile

Language-Cognitive Profile

Cognitive Impairments: Dementia

Reminder cards

Reminiscence therapy

Conversation
All of these treatments rely on effective learning tools

- Errorless learning
- Positive practice
- Massed practice
- Relevant rewards
Conclusions

- We are NOT concluding that the same treatment can be used to achieve the same goals for people with dementia or aphasia.
- BUT, some procedures are common across effective treatments, because they are based on effective learning and behavior change principles.
- AND some goals are common across all disorder types (e.g., participation in conversation).
Conclusions

- The expert clinician chooses the appropriate GOALS OR DESIRED OUTCOMES based on the client’s profile;
- The expert clinician chooses the appropriate PROCEDURES that will most efficiently and effectively facilitate the desired outcome.