Maximizing Communication for Individuals with Primary Progressive Aphasia

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Objectives

• Describe **speech and language characteristics** of PPA sub-types
  – Logopenic
  – Nonfluent/Agrammatic
  – Semantic

• Understand relationships between PPA sub-types and associated **underlying pathologies**

• Develop **functional, patient-centered goals** for individuals with progressive aphasia
Background

**1890’s:** first described by psychiatrists Arnold Pick and Paul Sérieux:

“a progressive disorder of language associated with atrophy of the frontal and temporal regions of the left hemisphere”

**1975:** Warrington described disorder of semantic memory

- condition also described by Snowden et al. as “semantic dementia”

(Gorno-Tempini et al., 2011)
Background

1982: Mesulam described series of cases “slowly progressive aphasia”

1990’s: Hodges et al. described comprehensive characterization of semantic dementia

1996: Grossman et al. identified a different progressive language disorder, termed “progressive nonfluent aphasia”

(Gorno-Tempini et al., 2011)
Coming to a Consensus

1998: Consensus meeting (Neary et al.)
- attempt to develop criteria for these conditions as they related to frontotemporal lobar degeneration (FTLD)
- broadly classified into “semantic dementia” or “progressive non-fluent aphasia” (fluent vs. non-fluent)
A third variant

2004: Gorno-Tempini et al.

- a number of cases of PPA did not fit into binary classification
- Described third variant
  - “logopenic progressive aphasia”
Latest Consensus

2011: Gorno-Tempini et al.

- Group of researchers in field of PPA convened to develop a consistent framework for classification of PPA
Logopenic Variant

- Left posterior temporal and inferior parietal lobe involvement
- Most often associated AD pathology

(Gorno-Tempini et al, 2011)
Logopenic Variant
Nonfluent/Agrammatic PPA

- Left frontal and parietal involvement
- Most commonly associated with FTLD with tauopathy

(Gorno-Tempini et al, 2011)
Nonfluent/Agrammatic PPA

BS WAB picture description
Mild cases

Logopenic vs. Nonfluent/agrammatic

- Variability of vowel duration (Ballard et al, 2014)
- Prosodic patterns
- “Islands” of fluent speech with hesitations interspersed
- Presence of vague/filler vocabulary
- Episodic and working memory deficits (Eikelboom et al, 2018)
Semantic PPA

- Left anterior temporal involvement
- Typically associated with FTLD-TDP pathology
- (Gorno-Tempini et al, 2011)
Semantic PPA

https://www.youtube.com/watch?v=fkKrsbwQvrE
## Assessment

### Standardized Assessment

**Language**
- Western Aphasia Battery (Parts 1 and 2)
- Boston Diagnostic Aphasia Examination
- Functional Linguistic Communication Inventory

**Supplemental**
- Episodic and working memory
- Motor speech (apraxia)

### Function-based Assessment

- Aphasia Needs Assessment
- Communication History Questionnaire
- Communicative Effectiveness Index (CETI)
- Tobii-Dynavox Personal Interest Inventory
Aphasia Needs Assessment

Appendix and Form 6.2 Aphasia needs assessment.

APHASIA NEEDS ASSESSMENT
(©) 1997, revised 2006, Kathryn L. Garrett & David R. Beukelman

COMMUNICATOR: ___________________ INFORMANT: _______________
INTERVIEWER: ___________________ DATE: ___________________

HOW ARE THINGS GOING FOR YOU?

<table>
<thead>
<tr>
<th></th>
<th>Poorly</th>
<th>So-So</th>
<th>4</th>
<th>Very Well</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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HOW WELL ARE YOU COMMUNICATING?

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<th>4</th>
<th>5</th>
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</thead>
</table>

WHICH SITUATIONS GIVE YOU THE MOST DIFFICULTY WITH COMMUNICATION? (Mark all that apply)

- Talking on the phone
- Conversations with family or friends
- Conversations with strangers
- Discussions about personal business
- Community Transactions (bank, pharmacy, travel agent, bus driver, etc.)
- Restaurants
- Doctor/Medical settings
- Work
- Giving directions
- Understanding others
- Other: ________________________________

VANDERBILT UNIVERSITY
MEDICAL CENTER
Aphasia Needs Assessment

What would you like to talk about during conversations?

- Funny stories about your children
- Your adventures as a young child/growing up
- Dating and getting married
- Being in the military
- Your worst jobs
- Your most important job/career
- Moving or traveling
- Hobbies or unique interests  
  List: __________________________
- Family history/ancestry/genealogy
- Local events
- Current events
- Sports
- Politics/the economy/the government
- Weather
- Favorite meals/restaurants
- My house/home town/things to fix
- My stroke and/or other medical issues
Aphasia Needs Assessment

WHICH COMMUNICATION SKILLS ARE THE MOST DIFFICULT FOR YOU?

- Getting someone’s attention
- Introducing myself and others
- Explaining about aphasia and how I communicate
- Engaging in “small talk”
- Introducing new topics
- Interrupting
- Asking questions
- Talking about the present
- Talking about the past
- Answering familiar, predictable questions (e.g., “How was your weekend?”)
- Answering questions that require a specifically-worded answer
  - (e.g., “I cooked red beet salad.”)
- Explaining something using specific language and a sequence of steps
- Telling a story
- Telling a joke
- Holding my communication partner’s attention
- Providing comfort
- Communicating how I feel
- Communicating specific physical needs quickly and accurately
- Expressing commands
- Following commands
- Resolving breakdowns
- Switching from expressing myself to listening
- Finding information I know that I have in my communication system
- Thinking to use another communication strategy
- Spelling
- Helping my communication partner with “clues”
- Staying on topic or on track in the conversation
DO YOU DO MOST OF THE COMMUNICATING FOR YOURSELF?  YES  NO
IF YOU ANSWERED “NO”, WHO DOES?__________________________

WHAT DO YOUR COMMUNICATION FACILITATORS NEED TO LEARN TO DO?
☐ Not to interrupt
☐ Not to guess or fill in words unless I say it’s OK
☐ To guess more efficiently by narrowing down the category of the target message
☐ Tell me what they do understand when I have difficulty communicating clearly
☐ Slow down when talking to me
☐ Give one item of info at a time when talking to me
☐ Write things down, draw, or gesture to help me understand better
☐ Help me answer yes/no questions by tagging them (yes….or no?)
☐ Ask me questions/give me opportunities to communicate
☐ Write down possible answers for me so I can point to them
☐ Help me find the correct pages/messages when I use my communication system
### Aphasia Needs Assessment

**WHAT COMMUNICATION STRATEGIES DO YOU or YOUR FACILITATORS CURRENTLY USE? DESCRIBE THEM, and TELL US WHEN YOU USE THEM:**

<table>
<thead>
<tr>
<th>Strategy</th>
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<tbody>
<tr>
<td>Strategy 1:</td>
<td></td>
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<tr>
<td>Strategy 2:</td>
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<td>Strategy 3:</td>
<td></td>
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<tr>
<td>Strategy 4:</td>
<td></td>
</tr>
</tbody>
</table>

**HOW WELL DO YOU READ?**

- Poorly
- So-So
- Very Well

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Poorly</th>
<th>So-So</th>
<th>Very Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Popular Magazines</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Daily Newspaper</td>
<td>4</td>
<td>5</td>
<td></td>
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<tr>
<td>Personal Letters</td>
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<tr>
<td>Professional articles or journals</td>
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<td></td>
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<tr>
<td>Fiction – short books</td>
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<td></td>
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<tr>
<td>Fiction – long books</td>
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<td></td>
<td></td>
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<tr>
<td>Nonfiction</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Email</td>
<td></td>
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<tr>
<td>Other:</td>
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**WHAT KINDS OF MATERIALS WOULD YOU LIKE TO READ?**

- Popular Magazines
- Titles: ____________________________
- Sections: ____________________________
- Daily Newspaper
- Sections: ____________________________
- Personal Letters
- Professional articles or journals
- Fiction – short books
- Topics: ____________________________
- Fiction – long books
- Topics: ____________________________
- Nonfiction
- Topics: ____________________________
- Email
- Other: ____________________________

**HOW WELL DO YOU WRITE?**

- Poorly
- So-So
- Very Well

<table>
<thead>
<tr>
<th>Type of Thing</th>
<th>Poorly</th>
<th>So-So</th>
<th>Very Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lists of things to buy or appointments to remember</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Bills and forms</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cards</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Short personal letters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long letters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stories</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business documents (letters, requests, manuscripts)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Journals or diary entries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
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</tr>
</tbody>
</table>
The Climb

Kathryn Cann 2015
www.aphasiafriendly.co
Considerations in Behavioral Treatment

**REHABILITATIVE**
- improving or maintaining language skills
- insight and motivation key factors
- family/caregivers must be involved
- will not eliminate difficulties with communication

**COMPENSATORY**
- enhancing communication
  - patient-oriented strategies
  - “other”-oriented strategies
- communication vs. speaking
- multi-modal communication methods and supports
Lexical Retrieval Protocol

Beeson et al (2011)

Goal: Improve lexical retrieval using a semantically-based intervention for a 77 yo patient with Logopenic PPA (2.5 years post onset)

Method: Two-hour sessions, 6 days/week for two weeks; 1 hour daily homework; 6 categories of 30 words (2 days of treatment per category)

• Day 1: Naming practice of personally relevant pictures w/ and w/out labels, subcategorization of items, comparing/contrasting items, generative naming within category
• Day 2: Focus on semantic elaboration (e.g. attributes, functional use, location, similar items, category, etc...)
• Homework:
  – Review labeled pictures
  – Written generative naming by subcategory
  – Schematic diagram creation
Lexical Retrieval Protocol

Beeson et al (2001), cont’d:

Results:

Results showed improved naming of trained and untrained items immediately following training and 6 months post treatment.
Participation-focused Protocol

Newhart et al (2009)

**Goal:** Improve functional communication using a cueing hierarchy to teach use of a communication notebook.

**Subject:** 65 year old female

**Treatment:** 1hr sessions; 3 sessions/wk; 8 wks; No homework; 2 categories of 40 words

**Results:**
- Naming accuracy over 90%
- Consistently used her notebook

**Cueing Hierarchy for Naming Pictured Objects**

1. Spontaneous naming
2. Written naming & oral reading
3. Search for word in notebook
4. Clinician assisted search for word in notebook
5. Repetition of name
Phipps, Barry, and de Riesthal (2016)

Purpose: “describe the clinical decision making process in managing the communication deficits in a patient with primary progressive aphasia - logopenic subtype. Two evidence-based treatment approaches were implemented...”

Participant: 75 yo male with logopenic PPA, 6 years post onset
Case Study at PBPRI

Method:

Visit #1
Counseling and Introduction to AAC
- Word lists/scripts
- Oxford Picture Dictionary
- Picture based communication book
- Speech generating ipad apps
- Dedicated speech generating device
Case Study at PBPRI

Visit #2 and 3 Impairment-based Intervention

Treatment: 1 hr session; 1 day/wk; 2 wks; 1 hr of daily homework; 1 category of 12 words

Activities:
- Read through labeled pictures
- Categorization of pictures
- Semantic Feature Analysis

Homework:
- Generative naming by category
- Written semantic feature analysis
Case Study at PBPRI

Visit #4: Progress Monitoring

Results:

- No improved ability to name trained items Immediately post treatment.
Case Study at PBPI

Visit #5: Participation-directed Intervention

**Treatment:** 1hr sessions; 1 sessions/wk; 2 wks;
No homework; 2 categories of 12 words

**Cueing Hierarchy for Naming Pictured Objects**

Black = Newhart Protocol  
Blue = Protocol Additions with JZ

1. Spontaneous naming  
2. Written naming & oral reading *(used letter board if needed)*  
3. Search for word in notebook  
4. Clinician assisted search for word in notebook  
5. Repetition of name & creation of word association
Case Study at PB PRI

Results

- Cues required to look up the word in notebook.
- Independently located word on 87% opportunities.
- Added new words to notebook at home!
Qualitative Results

• Increased confidence and independence with utilizing trained word-finding and communication strategies
• Demonstrated ownership of the established AAC system
• High motivation to continue developing his word lists
• Able to reference names quickly during conversation using his pocket word book
• Reported increased satisfaction with communication effectiveness
• Improved communication partner strategies and cueing techniques
AAC for patients with PPA

Fried-Oken (2008)

• Proposed three primary treatment goals related to AAC in PPA:

1) To compensate for progression of language loss vs. stimulate the language system to regain skills

2) To **start early**. Begin compensatory treatment as soon as possible. Be proactive so the person with PPA can learn to use communication strategies and tools

3) To **include primary communication partners** in all aspects of training
**Proposed Stages of Intervention during the Neurodegenerative Language Process: NFPA**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Treatment</th>
<th>Partner involvement</th>
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</thead>
<tbody>
<tr>
<td>I: No noticeable changes in expressive language</td>
<td>Education</td>
<td>Education</td>
</tr>
<tr>
<td>II: Detectable language lapses with hesitations and dysfluencies</td>
<td>Behavioral strategies to support conversation</td>
<td>Partners learn how to ask questions, reduce time demands on conversation, provide choices, and alter verbal and physical environment to support communication</td>
</tr>
<tr>
<td>III: Reduction in language use (circumlocutions; paraphasias; simplification; agrammatism)</td>
<td>Introduction of low tech AAC with training on downshifting for most effective communication strategy</td>
<td>Partners learn strategies and message selection techniques to identify visual forms of mental dictionary.</td>
</tr>
<tr>
<td>IV: Use of AAC tools and other techniques to augment expression</td>
<td>Introduction of additional tools and techniques for multi-modal communication system, including speech generating devices</td>
<td>Partners learn strategies and operations of each tool. Continue message selection techniques to identify visual forms of mental dictionary.</td>
</tr>
<tr>
<td>V: No functional language</td>
<td>Reduce tool choice if options become too overwhelming; continue family/care giver education and environmental support for established multi-modal communication system.</td>
<td>Partners become pivotal in successful interaction. They may carry the content of conversation while supporting participation with multi-modal techniques.</td>
</tr>
</tbody>
</table>

(Fried-Oken, 2008)
Low-tech AAC options

- Communication books/boards
- Photo albums
- Photo journals
- Word lists
- Picture dictionaries
- Gesture/ pantomime
- Writing/drawing
AAC

High-tech AAC options
Tablet + apps with easy customization
• E.g. EE Speech, SceneSpeak,
  Dynavox Compass, SnapScene,
  Alexicom

Dedicated Speech Generating Devices (SGD’s)
• E.g. Lingraphica TouchTalk, Tobii T-10 with
  Compass software
“Other”-Oriented Strategies

Supported Conversation for Adults with Aphasia

Acknowledge Competence

• Techniques to help patients/clients feel as though they are being treated respectfully

Reveal Competence

• Techniques to get and to give accurate information

(Kagan, 1998)
“Other”-Oriented Strategies

Acknowledging competence

• Speak naturally
• Acknowledge frustrations and fears of being thought of as unintelligent (e.g. “I know you know”)
• Deal openly with communication breakdowns
• Take equal ownership of communication breakdowns
• Incorporate supports naturally
“Other”- Oriented Strategies

Revealing Competence

IN:

• Use short, simple sentences and expressive voice
• Use gestures, write key words, point to pictures, etc. as you speak
• Eliminate distractions
• Check for comprehension (watch body language and facial expressions)
“Other”- Oriented Strategies

Revealing Competence

OUT:
• Ask “yes/no” or fixed choice questions
• Make sure individual has a way to respond
• Ask one thing at a time
• Ask the patient/client to give clues by gesturing, or pointing to objects, pictures and written key words (e.g. “can you show me...?”)
• Give the patient/client time to respond
“Other”-Oriented Strategies

Revealing Competence

VERIFY:

Reflect: repeat the PWA’s message

Expand: add what you think the patient/client may be trying to say

Summarize: pull things together at the end of a longer discussion
Take Home Messages

- Classification of PPA is **an opportunity for the SLP to use specialized skills** to add meaningful information to clinical picture to support differential diagnosis.
- Treatment should include **patient and family education/counseling**, **training of compensatory tools and strategies**, and **partner communication training**.
- Stimuli used should be **functional and patient-specific**.
- **Flexibility in treatment approach is important** as patient’s communication and cognitive abilities change over time.
References


References


References


