ACQUIRED LANGUAGE DISORDERS IN ADULTS

Using the ALD Target Model in Case Study and Treatment Planning
Disclosure

Financial: We are authors of *Acquired Language Disorders: A Case-based Approach*, 2nd edition (Plural Publishing, 2014). We receive royalties from the sales of that book. The ALD Target Model in this presentation is developed in that book.

Nonfinancial: We use the textbook when teaching the acquired language disorders course in our CSD graduate program at La Salle University.
The ALD Target Model
The Value of the Target Model

- An excellent tool for caregiver counseling and education
- The ALD Target Model can capture the various language disorders observed in adults.
- The ALD Target Model covers all the communication modalities in one “snapshot”.
- The ALD Target Model creates a salient graphic for the student and/or clinician representing the patient’s impairments.
- The ALD Target Model also incorporates cognitive functions necessary for effective communication (Helm-Estabrooks & Albert, 2004).
- The graphic complements one’s knowledge base for a quick comparison of disorder types, which facilitates learning in students and decision-making in clinicians.
Acquired Language Disorders in Adults

- Most commonly observed ALD:
  - The Aphasias
    - Fluent: Wernicke’s, TSA, Conduction, Anomic
    - Non-fluent: Broca’s, TMA, Global
  - Primary Progressive Aphasia (PPA)
  - Subcortical Aphasias
  - Right Hemispheric Cognitive-Linguistic Impairment
  - TBI
  - The Dementias
Characteristics of Major Aphasic Syndromes

Traditional Approaches to Assessment

- Obtain a case history.
- Choose a disorder-specific test instrument and administer it.
- Analyze the information obtained in order to arrive at a communication diagnosis.
- Use the information to develop both short-term goals (STG) and long-term goals (LTG) or functional outcomes.
Areas to Consider in the Assessment of Aphasia

- Language
- Attention
- Memory
- Executive Functions
- Visuospatial Skills
Language Functions to Assess

- **Language Expression**
  - Automatic Speech
  - Repetition or imitative speech
  - Word retrieval
  - Conversational ability
  - Pragmatic skills
  - Paraphasias

- **Speech**
  - Rate
  - Intelligibility
  - Prosody
  - Articulation
  - Fluency

- **Auditory Comprehension**
  - Answering yes/no questions
  - Identifying objects and their functions
  - Executing commands
  - Understanding stories and paragraphs
  - Understanding conversational speech
Language Functions to Assess

- **Reading**
  - Word-level comprehension
  - Sentence-level comprehension
  - Oral reading
  - Oral spelling

- **Written Expression**
  - Copying
  - Writing to dictation
  - Self-generated writing
  - Written spelling
  - Drawing
Cognitive Areas to Consider

- Attention/Concentration
- Visuospatial skills
- Memory
- Executive functions

Based on the work of:
A brief informal task that includes several functional areas

• **Instructions:**
  • Ask the patient: *Draw a clock, put in all the numbers, and set the clock to 10 minutes after 11.*

• **Needed**
  • **Attention** to task for completion and motor skills to execute it
  • **Language skills** to understand the directions and write numbers 1-12
  • Adequate **working memory** to store information and retrieve past knowledge of time
  • **Visuospatial skills** to represent the clock on paper.
  • **Executive functions** necessary for thought organization and sequential reasoning/planning.
### VISUOSPATIAL / EXECUTIVE

<table>
<thead>
<tr>
<th>E</th>
<th>Copy cube</th>
<th>Draw CLOCK (Ten past eleven)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>End</td>
<td>3 points.</td>
</tr>
</tbody>
</table>

### NAMING

- Lion
- Camel

### MEMORY

Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.

<table>
<thead>
<tr>
<th>FACE</th>
<th>VELVET</th>
<th>CHURCH</th>
<th>DAISY</th>
<th>RED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st trial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd trial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No points if ≥ 2 errors

### ATTENTION

Read list of digits (1 digit/sec.). Subject has to repeat them in the forward order.

<table>
<thead>
<tr>
<th>2 1 8 5 4</th>
</tr>
</thead>
</table>

Subject has to repeat them in the backward order.

<table>
<thead>
<tr>
<th>7 4 2</th>
</tr>
</thead>
</table>

### LANGUAGE

Repeat: I only know that John is the one to help today. The cat always hid under the couch when dogs were in the room.

### ABSTRACTION

Similarity between e.g. banana - orange = fruit

<table>
<thead>
<tr>
<th>train - bicycle</th>
<th>watch - ruler</th>
</tr>
</thead>
</table>

### DELAYED RECALL

Has to recall words WITH NO CUE

<table>
<thead>
<tr>
<th>FACE</th>
<th>VELVET</th>
<th>CHURCH</th>
<th>DAISY</th>
<th>RED</th>
</tr>
</thead>
</table>

### ORIENTATION

- Date
- Month
- Year
- Day
- Place
- City

Total: /30
Behavioral Symptoms to Consider

- Alertness
- Deficit Awareness
- Frustration
- Emotional lability
- Personality changes
Once the assessment is complete, turn to the model and move the markers into their positions.

Represent the cognitive domains appropriately.

Discuss and formulate functional goals based on patient/caregiver needs.

Select materials and activities
Understanding the Acquired Language Target Model

KEY:
1- Normal
2- Mild-Moderate Impairment
3- Moderate-Severe Impairment
4- Severe-Profound Impairment

/line-
Impaired cognitive function
48 year-old WM, right-handed; married w/2 children (22 and 19 years); insurance sales; college educated (Bachelor’s degree)

Admitted via EMS with stroke in progress
- Slurred speech
- RUE weakness

PMH
- IDDM
- HTN
- Morbidly obese
- Bilateral carotid artery occlusion, > on left

PSH: s/p appendectomy
Functional Analysis of Maurice’s Test Results

- Speech production limited to monosyllables
  - Apraxia of speech and mod.-severe dysarthria combine to produce unintelligible speech
- Spared prosody, “Oh boy!”
- Auditory comprehension was good for short stories; problems with conversation in group settings.
Functional Analysis of Maurice’s Test Results

- Consistent ability to attend to tasks
- Highly motivated
- Good family support
- Significant frustration
- Self-directed anger
Using the ALD Target Model for Maurice

- The communication modalities
- The Cognitive Functions
- The “Snapshot” provided by the Model
- Patient/family involvement in goal-planning based on the model.
- The ALD Model delineates strengths and needs and makes it easier for the layperson to understand them.
- The ALD Model now becomes part of the counseling/education program for the caregiver.
Maurice’s Broca’s Aphasia
Samuel: TBI
Case History

- 22 year-old A-AM, right-handed, admitted via EMS s/p MVA car versus tree with lateral impact.
  - Unrestrained driver, ejected from vehicle
  - Combative but conscious at the scene.
  - Moving al extremities
  - Mandibular fractures; SAH, SDH
  - GCS = 9 in ED
- PMH: Unremarkable
- PSH: s/p appendectomy
- Social History: lives alone; HS grad; works for school district in facilities management.
Repetition WNL
Incohesive discourse
Pragmatic impairments
Speech rate, intelligibility, articulation, and fluency WNL; monotone
Comprehension: WNL for simple yes/no; impaired at conversational level
Reading/writing impairments
Memory impairments
Disoriented
Anosagnosia
Emotional outbursts common
Variable alertness
Samuel’s Traumatic Brain Injury
Parental counseling and education

Patient/family involvement in goal-planning based on the model.

Facilitated discussions with team members

Provided a baseline snapshot for comparison purposes.
Advantages to the clinician and student:

- The model graphic
- The functional analysis
- The treatment considerations
- The therapeutic options
- The critical thinking/learning activity
- The model facilitates recall of disorder types
- Case presentation
- Treatment planning
Traditional Approaches to Treatment

- Develop STGs based on:
  - the results of the assessment
  - the patient’s needs
  - the caregiver’s needs
  - the time constraints imposed by external variables

- Employ evidence-based methodologies

- Choose materials and activities that are patient-specific and relevant to the STGs.
Current Treatment Options

- Treatment
  - Conversation groups
  - Reading groups
  - Computer-assisted treatment (CAT)
  - Constraint-induced Language Therapy (CILT) (Cherney et al., 2008)
  - Speech Entrainment (Fridriksson et al., 2012)
  - High intensity, low frequency (Cherney et al., 2008)
  - Above all: Treatment must show results!
FUNCTIONAL COMMUNICATION CONNECTIONS

VISUALLY MEDIATED

READING / COMPREHENSION: PICTURES - WORDS

READING & WRITING

WRITTEN EXPRESSION / DRAWING

READING & SPEAKING

SPOKEN EXPRESSION / GESTURES

SPEAKING & LISTENING

WRITING & LISTENING

LISTENING COMPREHENSION / SIGNING

VERBALLY MEDIATED

Klein & Mancinelli (2009)
Functional Communication Connections™

VISUALLY MEDIATED

READING
Read a book, magazine, letter, e-mail, text, report, shopping list silently
Discuss a book read, read notes aloud, audition with script, order from catalog, call names from list, order from menu, read chart or story aloud
Speak in a monologue, give oral directions, dictate information, spell words, present

WRITING
Respond to letter, complete application, take test, use computer & email, write report, complete crossword
Write a story, directions, list, names, resume, letter, notes, ads
Write/type lecture notes, write directions, numbers, information told, jot notes from told, write/type notes from a meeting
Listen to Smart device, T.V., lecture, speech, radio, music, story

READING & WRITING

EXPRESSIVE

SPEAKING
Converse, discuss, topics, retell a story or joke, comment, persuade, argue, spell, ask & answer

SPEAKING & LISTENING

LISTENING

VERBALLY MEDIATED

EXPRESSIVE

RECEPTIVE
ALD Target Model Supports the International Classification of Function (ICF) Model
The ALD Target Model has multiple applications in the area of acquired language disorders in adults.

- It incorporates the patient and caregiver in planning, as needed.
- It provides an accessible description of the client's impairments through the graphic representation.
- It is useful in counseling and education of the caregiver.
- It supports student learning.
- It is a functional resource for clinicians working with this population.
- It promotes efficient planning for the clinician.

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