Updates on Aphasia: Issues, Evaluation, and Treatment

Scott S. Rubin, Ph.D.
Associate Professor
&
Adjunct Professor
Department of Psychology
Tulane University

Disclosure Statement:
† Speaker is receiving both travel support and honorarium from the conference organization for this presentation.
‡ There are no other disclosures to be made.

Saint Louis Cemetery
#1, Basin St., New Orleans
Marie Laveau’s tomb
Updates on Aphasia
10:00am-12:00pm

Break – Possibly if you desire, approximately 11:00 (14 min)

Rules –

🌟 Please put cell phones on vibrate. If you must answer and talk, whisper while you are LEAVING the room.

✅ Please participate as interaction is very important.

✅ Keep in mind that we want to stay fairly topic driven and must cover quite a bit of information.

✅ During comments or questions, I may need to rudely interrupt folks in order to move us along.

✅ You will be asked some questions, for opinions and experiences at various points. Please participate.

✅ Note: to keep you semi alert, there will be questions presented, these points/times are not indicated on the slides.
You are thinking – “He can’t be serious with like 472 slides for a 2 hour presentation”!

Well, Do Not Freak Out!

(if you must freak, please go out into the hall to do so)

Yes, there is a LOT of information contained in the PowerPoint and handout!

However, my objective is to highlight information from some of the various studies, as well as to focus on discussion and some application exercises. In other words, we will not be talking about each of the slides.
Updates on Aphasia

Streamlined Session Overview

Sections of this presentation are:

- Special Issues
- Quality of Life (QOL)
  - All aspect of what we do should relate to Pts’ QOL (Dx, Plan, and Tx)
- Evaluation
- Treatment
Updates on Aphasia

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Other than the presenters, inserted idea and expressed opinions, sole credit for the studies reviewed and their specific descriptions are given to the researchers & authors.
I do not take credit, nor was I involved with the particular research discussed.
I do take full responsibility for any comments and/or notes I make.

It is highly recommended that attendees review the original references for more complete information.
INTRO: Special Issues

Introduction: Let's get this straight

- Will only consider aphasia as due to acquired brain damage (usually CVA) involving brain areas related to language function.
- Can co-occur with other deficits, but for classification of “Aphasia”, overall deficits must be most evident in language.
- Other than language, can see cognitive and symbolic deficits, but to lesser extent.

IMPORTANT: Traumatic Brain Injury (TBI) in the majority of circumstances do not possess “aphasia” (except in some special injury types). We must also excluded the dementias, right hemisphere syndrome, dysarthrias, apraxias etc. as being the source of aphasia diagnosis.

However, you will see many health professionals (possibly you) use the term across disorder types. Part of SLP responsibilities include furthering current zeitgeists or misinterpretations.
Updates on Aphasia

INTRO: Special Issues

- Another issue (pet irritation – it’s not that I’m brash – it’s just that I’m right about these issues

Note: We are very well educated/trained SLPs with supposed proficiency in neurogenic communicative disorders. Our scope of practice includes being the expert in the differential diagnosis of communicative disorders! Rather than simply conforming to the minimum expected by other healthcare professions, we are obliged to properly diagnose and describe the specific disorders we encounter (Rubin, this session)

- Use of the terms “expressive aphasia” and/or “receptive aphasia” as dichotomous classifications, is extremely misleading (to non-SLPs) and simply inaccurate. Problem is, that is often what facilities/insurers dictate we use.

- We often have to check a box indicating expressive or receptive, but please take advantage of “Comments” sections for our professional diagnoses

- Use the SLP/Neuropsychologist discrete aphasia diagnoses; Broca’s. Transcortical Motor, Conduction, Anomic, Global, and the rest

- If we must use dichotomous diagnoses, Fluent/Nonfluent, and Frontal/posterior are must more inclusive of behaviours

- We should educate/train other professions as to the range of aphasias and what they should expect from the SLP
Updates on Aphasia
Special Issues
Neuropsychological Aspects

- Attention and Cognitive Deficits
  - The language/communication disorder is due to “brain damage”, so other behaviors may be involved.

- Attention and other cognitive deficits in aphasia: Presence and relation to language and communication measures; Laura Murray, (Indiana University), CAC & AJSLP, 2012

- There’s a relationship between cognitive behaviors and language and communication that may affect evaluation, prognosis, and response to treatment.

- Consider the various types of “attention” needed! Just saying the Pt has “deficits in attention is not specific enough.
Vigilance
- Sustained attention - typically considered by SLPs
- Can Pt attend and respond for periods of time?

Selective Attention
- Can Pt attend to task and tuned other stimuli out?
- Need to disregard the irrelevant

Attention Shifting
- Being able to switch attention to new stimuli within a task
- Being able to switch attention to a new task (letting the past go).

Divided Attention – relates to “work load”
- Responding to 2 or more relevant tasks
- Not a relevant with irrelevant... that would be selective
- Considerations within or between modalities
Updates on Aphasia

Special Issues

Neuropsychological Aspects

- Need to test all of the above for look at Pts attentional system
- Consider attention in modalities
  - Listening & reading; verbal & writing (attn may differ)
- Some view other functions as more important (Hinkley & others); Memory – Executive System (but attn is a part of executive sys)
- Some research shows that language and attention are linked
- But, memory and executive system (?) need more research, though they are related to language
Updates on Aphasia
Special Issues
Neuropsychological Aspects

Laura Murray’s Study
- N=78: n=39 aphasia; n=39 controls
- Aphasia post left hemisphere stroke
  - Why so important specifically for attention studies?
  - Had Mild and moderate severity levels with a mix of fluent and non-fluent asphasia
- Cognitive testing for controls (Mini Mental State Examination)
  - Note – caution with MMS used in aphasia.
- For all: Tested “Attention”, Executive System, Memory, and Visual And Attentional neglect
  - Difference between visual and attentional?
  - Tip... When testing for aphasia, do a visual neglect task at the start. Why?
Updates on Aphasia
Special Issues
Neuropsychological Aspects

Findings
- Each area of attention found to be “vulnerable” in aphasia
  - Sustained, Selective, Switching & Divided
- Visual Neglect also vulnerable
- Other areas that may co-occur with aphasia
  - Short Term and Working Memory
  - Executive System
    - Self monitoring
    - Planning
    - Cognitive flexibility
- Keep in mind – there was variability between subjects (just as in our entire population).
- The greater the aphasia – the greater the risk
Nonfluent Aphasia and Cognitive Impairment Caused by Anterior Cerebral Artery Infarction, Zhou, et al., CNS Neuroscience & Therapeutics, 2013 (Shanghai)

Lesions involving the Anterior Cerebral Artery (ACA) not studied enough

Focus tends to be on Middle Cerebral Artery (MCA)

Supplies much of medial hemispheres (frontal & frontal pole, parietal, narrow strip of superior lateral hemispheres)

Previously associated with Transcortical (Isolation) aphasia. Isolating preserved anterior & posterior language areas (thus repetition okay – but lack communication with other brain areas for formulating messages and understanding)

Often seen ACA deficits

- Apathy & Indifference
- Motor dysfunction
- Urinary incontinence
- Sensory deficits

Authors note a patient with nonfluent aphasia
Their patient with nonfluent aphasia and cognitive impairment post parietal ACA
Pt 67 yrs & right handedness
Presented with slight right side weakness
Family reported as being “silent” since onset
Could not report the onset due to lack of output
When tried speaking, had few words with nonfluent production not easily understood
Good recent memory
Oriented X2
Repetition poor
Could follow verbal & written commands
Writing/copying normal
MRI = corpus callosum, cingulate gyrus, superior frontal gyrus...
Updates on Aphasia
Special Issues
Neuropsychological Aspects

- Their patient with nonfluent aphasia and cognitive impairment post parietal ACA
- While hospitalized, didn’t speak with others & laid around
- Though laid around, could walk after ordered to
- Not “akinetic mutism” since was alert, not motionless, and would say a few words after much encouragement (unclear – one word – some short phrases)
- Not Transcortical motor aphasia since repetition was poor
- May be the disorder “Abulia”, seen most commonly in bilateral frontal damage
- Typified by reduced Movement, Spoken words, and Actions
  Also have “Idleness” of Thought
- Lesson of the study
  - ACA infarcts can result in a number of varying deficits
  - The associated functions are complex
  - Need more research – clinical reports focused on ACA
Updates on Aphasia

Special Issues

Electrical Brain Stimulation

- In the old days – when studying function of the brain and behaviors/deficits we were limited to post morbid dissection, lesioning (ablation), and imaging structural/functional MRI and electrophsiological)
- Direct brain stimulation limited to craniotomies (when brain dysfunction)
- Early external attempts were crude and painful

- *Now are methods for stimulating regions of the brain by external instruments*
Updates on Aphasia
Special Issues
Electrical Brain Stimulation

- Studies are using
  - Transdermal Direct Current Stimulation (tDCS)
  - Repetitive Transcranial Magnetic Stimulation (rTMS)

Cotelli, et al. provide good overview in Neuropsychological Rehabilitation (2011)

- Both can alter excitation of neurons (areas) but they’re different in how

  - rTMS causes action potentials in neurons
  - tDCS doesn’t cause action potentials but does modify evoked cortical responses to incoming stimuli and post-synaptic neuronal activity: Increasing neuronal excitability

- BOTH can result in greater excitability of neurons and improve the abilities in cortical function within the system stimulated
  - from Cotelli, et al., 2011; See also Miniussi & Rossini, 2011; Paulus, 2011; Bindman, et al., 1962

- Can lead to functional reorganization and better performance
Overview Continued
Related to rTMS – not just for excitation!
Consider frequency of stimulation used
- High frequency has rTMS ≥ 5 Hz
  - Increases excitability – improves function
- Low frequency has rTMS ≥ 1 Hz
  - Reduces (inhibits) function
  - Used to shut down areas of dysfunction

Example
- Low frequency provided to right hemisphere equivalent of “Broca’s” area in the left, allowed improved function of the damaged left Broca’s area.
  - I.e., it suppresses the weaker function in the right.
Over time, could focus recovery to left hemisphere (which has shown to be more favorable – IF there is sufficient peri-lesion tissue for uptake of function.

A study with a placebo group demonstrated increased right hem activity (localizing to right) over time as compared to right low-frequency stim resulting in improved performance within the left hemisphere!

Stimulation with conventional SLP treatment may provide the best results

(Refs for above include Kakuda, et al., 2010; Weiduschat, et al., 2011; Martin, et al., 2009)
Anomia Training and Brain Stimulation in Chronic Aphasia, Cotelli, et al., Neuropsychological Rehabilitation, 2011 (Italy & Canada)

They report previous studies enhanced performance using rTMS or tDCS with Pts with aphasia from stroke OR Alzheimer’s (but from Italy)

Their Pilot Study (ref above)

- Chronic stroke Pts with nonfluent aphasia
- Real or Placebo rTMS to dorsolateral prefrontal cortex (25 min) followed by individualized speech Tx (also 25 min).
- Used high-frequency rTMS (what’s it doing?)
Updates on Aphasia
Special Issues
Electrical Brain Stimulation

- **Anomia Training and Brain Stimulation in Chronic Aphasia**, Cotelli, et al., Neuropsychological Rehabilitation, 2011

- **Pilot Study continued**
  - Chronic stroke Pts with nonfluent aphasia
  - Real or Placebo rTMS to dorsolateral prefrontal cortex (25 min) followed by individualized speech tx (also 25 min).
  - Used high-frequency rTMS (what’s it doing?)
  - Four weeks of treatment
  - 1 subject (P1) 4 weeks – 5 days/wk ; real rTMS with speech tx (see above)
  - 2 subjects (P2, P3) – two weeks placebo rTMS with speech tx (same as other) – then two weeks of real rTMS with speech tx
Updates on Aphasia
Special Issues
Electrical Brain Stimulation

**Continued** procedures

- **Object Naming** tested for baseline and then post baseline at 2, 4, 12, 24, & 48 wks

**Results**

- With real rTMS and speech tx, found significant improvement in naming at all testing intervals
- Also significant with Placebo rTMS and speech tx.

**Discussion**, the authors suggest brain stimulation **WITH** speech tx would be advantageous for all chronic aphasia pts

- Of course, include caveat that more research in needed
Measuring and Inducing Brain Plasticity in Chronic Aphasia, Fridriksson, JCD, 2011, JCD (University of South Carolina)

- Investigated “brain plasticity”
- Extend data that
  - Functional and structural changes (Meinzer, 2008; and others)
  - N=25; n=15 chronic aphasia; n=10 controls
  - 1st naming in fMRI; saw left hemisphere activation
    - Areas surrounding lesion site
    - Suggesting plasticity in left hemisphere
Updates on Aphasia

Special Issues

Electrical Brain Stimulation

- Measuring and Inducing Brain Plasticity in Chronic Aphasia, Fridriksson, JCD, 2011, JCD (U South Carolina)

- Used – (tDCS procedures used were more complicated – but will present the necessary information here)
  - Anodal tDCS (A-tDCS) – anodal electrode causes positive charge - causes excitability
  - Sham tDCS (S-tDCS) – used as control in number of studies – uses same procedures but with little or no current (placebo)

- 10 Pts underwent
  - 5 days A-tDCS (20min) while completing computerized anomia tx
  - 5 days S-tDCS same procedure as A-tDCS
  - tDCS site was left frontal peri-lesion (used pre-test fMRI to locate region)
  - Repeated fMRI apriori, 5 days then another 5, then to 3 weeks later. fMRI used post study.
Updates on Aphasia

Special Issues

Electrical Brain Stimulation

- **Measuring and Inducing Brain Plasticity in Chronic Aphasia**, Fridriksson, JCD, 2011, JCD (U South Carolina)

- **Findings**
  - A-tDCS significantly increased naming of treated targets as opposed to S-tDCS
  - Effect remained 1 week post
  - Noted generalization to untreated targets (no stats provided) beyond tx

- **Suggest**
  - A-tDCS assists in reorganization within left hemisphere.
  - Use of stimulation to peri-lesion improvements result from left hemisphere reorganization
  - Does not suggest rt hemisphere does not contribute – but that optimal improvement comes from left hemisphere plasticity.
One more –

Cathodal Transcranial Direct Current Stimulation of right Wernicke’s Area Improves Comprehension in subacute stroke patients, You, et al., 2011, Brain & Language (done in Korea)

Used rTMS, sham tDCS, and cathodal tDCS (C-tDCS), 10 sessions

So far, been referring to tDCS (often A-DCS) as promoting excitation. In this case used C-DCS

Types of electrodes used result in different effects

Anode electrodes = excitation (used in previously reviewed)

Cathode electrodes = inhibition
Cathodal Transcranial Direct Current ... You, et al., 2011, Brain & Language

Pts also received Speech Therapy

Patients were mix of Broca’s and Wernicke’s

All recent stroke (subacute)

Used Korean WAB (K-WAB)

Strange but... though provide this mix, later in grouping describe all as “Global”. Maybe were severe B or W? Not idea why. Table reveals a number were moderate-severe, a few definitely more mild, and a few severe.

Patients randomized into 3 Groups (final inclusion presented as multiple dropped out.

Final groups: rTMS n=7; C-tDCS n=7; S-tDCS n=7
Electrical Brain Stimulation

- Cathodal Transcranial Direct Current... You, et al., 2011, Brain & Language

- All 3 groups significant gains over “time” of the 2 weeks tx
  - Auditory-verbal comprehension & spontaneous speech
- No significant gains for treatment (across 3 grps) but the C-tDCS grp had the most gain in auditory comprehension; indicating suppression of analogous rt hemisphere more effective than excitatory stimulation over left.
- In prev study used areas around stroke... here used traditional Wernicke’s area
- Related to just above, report no greater change in performance for rTMS grp could be due to stimulated area possibly being necrotic
- They report that increases in language function possible due to spontaneous recovery.
- Report no greater change in performance for rTMS grp could be due to stimulated area possibly being necrotic
Updates on Aphasia

Transition –
Warning – must now shift attention

Leaving-
Special issues

Turning to -
Quality of Life
As we all know –

- Level of communication is central to Quality of Life (QOL) and Activities of Daily Living (ADLs)
- Communication deficits often results in social isolation, depression, and poor QOL (many available sources)
- As SLPs, we must have the goal of optimizing QOL of our patients and caregivers (families, etc.)
- Consider QOL in evaluation, education, treatment, as well as track QOL of our pts
Updates on Aphasia
Quality of Life

- Living Successfully with Aphasia: A qualitative meta-analysis of the perspectives of individuals with aphasia, family members, and speech-language pathologists, Brown, et al., 2012, IJSLP (Australia), includes Linda Worrall – done much in QOL

- State that goal of treatment should be for those with aphasia to “live successfully despite their communication disability”
- Task to identify themes within previous studies
- Study was to examine perspectives of those with aphasia, their families, and the SLP for similarities and some variation between them
- Contains decent literature review of research in QOL
Updates on Aphasia
Quality of Life

Living Successfully with Aphasia: A qualitative... Brown, et al.,

State that goal of treatment should be for those with aphasia to “live successfully despite their communication disability”

Task to identify themes within previous studies

Study was to examine perspectives of those with aphasia, their families, and the SLP for similarities and some variation between them

Highlights

Contains decent literature review of research in QOL

Describes process of conducting the meta-analysis
Updates on Aphasia
Quality of Life

- Living Successfully with Aphasia: A qualitative... Brown, et al.,
- Results revealed the following themes
  - Participation
    - Having significant activities in life
      - Some provided include – work and/or volunteer work, travel, developing hobbies, etc
    - Brown et al., report participation leads to feelings of independence, pleasure, and well-being. The authors also report the following: Sense of purpose (usefulness); Stimulation for brain; Sense of normalcy; Sense of achievement
  - Meaningful relationships
    - Involves social interaction and feeling connected
    - Relates to idea of acceptance, love, friendships, and support
Updates on Aphasia
Quality of Life

Living Successfully with Aphasia: A qualitative... Brown, et al.,

- Support
  - Practical (chores, etc.)
  - Emotional
  - Support in participating in activities
  - Support for families themselves – someone for the caregiver to talk to about their issues. Their own support system.
  - Trying to find the right combined amounts of support, autonomy, and independence for pt and family.

- Communication
  - Has to do with so much!
  - They often think of strategies they develop on their own, rather than those the SLP provides!
  - Communication interacts with each of the other themes

- Positivity
  - Research hasn’t show that this is high on SLPS’ list
  - Pts report the need to be positive about the gains they have made
Updates on Aphasia
Quality of Life

- Living Successfully with Aphasia: A qualitative... Brown, et al.,
  - Independence and autonomy
    - For pts, relate to everyday activities.
      - Ordering food
      - Using mass transportation
      - Living in one’s own home
    - SLPs understand the above but feel the most important thing is the pts’ autonomy in decisions and having control over their lives
  - Living successfully with aphasia as a journey over time
    - All the groups understood it takes time to successfully live with aphasia
      - Pts and family understood it takes 2, 3, 5 years to move through various phases and emerge from the other side
      - Understand things get better and for some they took it “one day at a time”
The first 3-months post-stroke: What facilitates successfully living with aphasia?

Qualitative approach: Examined first 3 months of recovery for factors that promote successful living

N=15

Completed the Successfully Living with Aphasia Rating Scale (SLARS) and identified themes from semi-structured interviews
Updates on Aphasia
Quality of Life

The first 3-months post-stroke: What facilitates successfully living with aphasia? Grohn, et al.
Authors identified 5 themes

Need to do things
- Some activities described by pt as helping with communication (SCRABBLE), using computer, etc.

Social support and social relationships
- Two major were friends, family, and other pts
- Helped with emotional support and functional tasks
- Mentioned support groups (motivation, encouragement, and meeting new friends)
Updates on Aphasia
Quality of Life

The first 3-months post-stroke: What facilitates successfully living with aphasia? Grohn, et al.

Rehabilitation
- Felt cared for by health professionals
- Mentioned SLPs; relationships with them and the motivation and encouragement they provided
- Also, the therapist provided needed information and that they benefited from tx

Adaptation and making adjustments
- Stated that they needed to do things differently
- Involved strategies including more time, larger text
- Some involved their communicative partners; slowing down, asking questions, giving choices, etc.
Updates on Aphasia

Quality of Life

- The first 3-months post-stroke: What facilitates successfully living with aphasia? Grohn, et al.

- Positive outlook
  - Pts felt they needed to be positive
  - Pts demonstrate various attitudes such as:
    - hope and optimism
      - Often via progress thus far
      - Being better and knowing progress takes time
    - determination
      - Want to do what’s needed to do better; to achieve success
    - Gratitude
      - Being alive after stroke and that stroke didn’t cause more damage.

- Many clinical implications to this study
Updates on Aphasia

Quality of Life

- Focus on communication: Increasing the opportunity for successful staff-patient interaction, McGilton, et al., 2010, Internat Journal of Older People Nursing (study done by PhDs in nursing, Canada)
- Find interesting given nursing perspective
- Goal to develop patient-centered communication care plans
  - Evaluate implementation of plan
  - Look at staff perceptions of plan
  - Patients’ perceptions of care and psychosocial function
  - Examine changes in nurses knowledge of and attitudes toward communication w pts

WE SLPs DO THIS! I Believe this study gives a fresh view and we may be able to incorporate some (if not doing already)
Updates on Aphasia

Quality of Life

- Focus on communication: Increasing the opportunity for successful staff-patient interaction, McGilton, et al.
- One group pre-post test design; focus group with nurses
- Tasks involved developing the patient-centered communication intervention (PCCI), attending a workshop, system to support nurses using plan
- Plans used over 2 mo period with focus groups at the end
- Previously shown that training increases nurses “willingness and comfort to communicate with pts” (Bowles, et al., and others)
Updates on Aphasia
Quality of Life

- Focus on communication: Increasing the opportunity for successful staff-patient interaction, McGilton, et al.
- Patients in continuous care in a complex continuing care (CCC) facility; pts had varying communication disorders (including aphasia)
- PCCI included
  - SLP developing plan
  - Nurses attend a full day workshop; focus on communication & behavioral strategies
  - Implementing a nursing staff support system
- Individualized care plans had following format
  - How to communicate with “client”
  - How client communicates
Updates on Aphasia
Quality of Life

- Focus on communication: Increasing the opportunity for successful staff-patient interaction, McGilton, et al.
- Continued - Individualized care plans
  - What client likes to discuss
  - Client’s habits to know to avoid
    - Examples: expresses anger, difficult to know if he’s understood, does not enjoy recreational activity
- Staff support system
  - SLP supported nurses in using the plan in everyday practice (included bedside)
    - Provided feedback
    - Demonstrated strategies
Updates on Aphasia
Quality of Life

- **Focus on communication:** Increasing the opportunity for successful staff-patient interaction, McGilton, et al.
- Continued –
- Participants included 18 nurses and 9 pts
- **Nursing staffs’ outcomes**
  - Had noticed gaps in their knowledge; appreciated acquiring new knowledge
  - Appreciated care plan
  - Became more aware of pts’ need for an individualized communication plan
  - Pts became less agitated and anxious; staff less frustrated with less struggle understanding pts
  - Nurses reported less burdened and the plan saved them time
  - Reported better knowledge of aphasia after training
Updates on Aphasia
Quality of Life

O Focus on communication: Increasing the opportunity for successful staff-patient interaction, McGilton, et al.

O Continued Findings–

O Patient care outcomes
  O Pts felt nurses could relate more easily
  O Pts indicated increased perception of their own communication
  O Pts reported better relationships with their nurses

O Study implications provided
  O Nurses partnering with the SLP is essential
  O Staff education may require bedside mentoring
  O Approach to staff education should acknowledging their expertise and be interactive
  O A 1-day workshop is beneficial so that different shifts can learn and there’s more continuity of care
Updates on Aphasia
Quality of Life

"Making a good time": The role of friendship in living successfully with aphasia, Brown et al., 2013, IJSLP (Australia)

- Study relates to the importance of friends for QOL with aphasia
- Includes perspectives of those with chronic aphasia; mix of mild and moderate-severe.
- N=25; all were living within the community 2 or more years post onset.
- Pts decided if they wanted a family member with them for support
- Interviews were transcribed and method of analyzing the transcripts is provided.
“Making a good time”: The role of friendship in living successfully with aphasia, Brown et al., 2013

Analyses revealed main themes and sub-themes

- **Theme 1, Living with changes in friendship**
  - **Pts expressed the need to adjust to the negative alterations in friendship as well as positive changes.**
  - **Subtheme A – Loss of friendship.** Lose many friends and hard to maintain those from pre-stroke
  - **Subtheme B – Friends’ lack of understanding about aphasia.** They just didn’t know about aphasia. Friends may talk down to them, think they have mental problems.
  - **Subtheme C – Increased dependency and lost opportunity for contact with friends.** Physical difficulties, loss of work, or not being independent enough to go out on their own.
  - **Subtheme D – Difficulties talking with friends.** Hard to explain thoughts and what they’re talking about. Pt reported that he could still communicate at a surface level, but not discuss more in-depth topics.
Updates on Aphasia
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“Making a good time”: The role of friendship in living successfully with aphasia, Brown et al., 2013

Theme 1, Living with changes in friendship - continued

Subtheme E – Desire for more friends and increased contact. Note – didn’t specify type of friends at this point; aphasic – non-aphasic, etc.

Subtheme F – Increased appreciation for friends. A number of patients had lost friends, but really appreciated the friends that stuck with them. Thought of these as “true friends”.

Subtheme G – New friendships and being proactive. Pts report importance of meeting new friends through support groups, interest groups within the community, and going out any meeting people.

Theme 2, Good times together and support from friends

Subtheme A – Spending time with friends and doing things together. Pts mention going out to eat, playing cards, 4-wheel driving, going on holidays.
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“Making a good time”: The role of friendship in living successfully with aphasia, Brown et al., 2013

Theme 2, continued - Good times together and support from friends -

- Subtheme B – Laughter and engaging in private interactions. One pt reported, “You’ve got to laugh...”. Overall, pts felt it uplifting.

- Subtheme C – Emotional support from friends. Importance of friends “always there” when needed to talk or cry. Felt encouragement from friends.

Theme 3 – The importance of stroke and aphasia friends. Others aphasia knew what the pt was going through. Many pts formed close friendships with “others who’ve got the same thing”.

- Subtheme A – Mutual understanding and ease of communication

- Subtheme B – Helping each other. Pts knew some were worse than others, that they could be mutually supportive, and help each other
Updates on Aphasia
Quality of Life

“Making a good time”: The role of friendship in living successfully with aphasia, Brown et al., 2013

The authors provide clinical implications. Much of what they suggest seem fairly obvious but maybe not. Simple steps could make a tremendous impact on the pts’ QOL!!!

- Friendship should be a very important issue
- Since many of pt’s friends didn’t know or understand about aphasia, provide information and education for friends specifically. Teach friends techniques and how to optimize communication/interaction
- Provide pts with ways to meet one another. Have group tx, put them in touch with support groups (start one?), and provide introductions to the different associations. Also, explore interest groups in the community and encourage the pt to participate. Need to help them overcome their difficulties in social activities.

I’m adding, to increase the general public’s awareness of aphasia (part of SLPs’ duty)... Shouldn’t businesses, restaurants, emergency agencies (police, etc) be aware?
Updates on Aphasia

Transition –
Warning – must now shift attention

Leaving-
Quality of Life

Turning to -
Evaluation
Updates on Aphasia

Evaluation

- Much of what we have already talked about directly related to “evaluation”.
- In general, we need to examine their -
  - cognitive and executive system abilities
  - the stroke itself; where – how big
  - handedness (which is only an indicator of lateralization)
  - the status of family AND friends
  - living circumstances
  - emotional state (depression, acceptance, etc.)
  - their goals for the future
  - Oh, and maybe something about their language and communication?

This presentation will not address all of the above.
What follows is a small sample issues.
Updates on Aphasia Evaluation

- **Stroke Social Network Scale: development and psychometric evaluation of a new patient-reported measure**, Northcott & Hilari, 2013, Clinical Rehabilitation (London)

  - Part of a larger work, this article describes the work that went into validation of the 19 question Stroke Social Network Scale (SSS)
  - The SSS is associated with the Stroke and Aphasia Quality of Life Scale (SAQOL; Hilary & Byng, 2009; and others); 39 items
  - SSS to measure some of the key points related to pts’ lives:
    - Examining for changes in their social status
  - For SSS, pts asked to consider their social network within 1 month prior to the stroke (2 week interview) and in the past month when given in at 3 and 6 month interviews
  - Question were simple to understand; were presented so patient could hear and see them (pictures provided)
  - Possible answers displayed and pts can point as needed
Updates on Aphasia

Evaluation

- Stroke Social Network Scale: development and psychometric evaluation of a new patient-reported measure, Northcott & Hilari, 2013
- Five subdomains of the test: Raw scores 0-100
  - Satisfaction with social network
  - Children
  - Relatives
  - Friends
  - Groups
- Questions based on a “conceptual model” with the following items
  - Size of network (is it shrinking, raising, etc.)
  - Composition of the network (spouse/partner, children, close friends and relatives, and work/neighbors/groups)
  - Frequency of contact (face-to-face as well as phone, letters, emails, etc.)
  - Proximity (locally versus more distant and how they may differ after pt has stroke)
  - Satisfaction with network (how well does their network satisfy their needs)
Updates on Aphasia Evaluation

- Stroke Social Network Scale: development and psychometric evaluation of a new patient-reported measure, Northcott & Hilari, 2013

- Baseline N=87; 3 month N=76; 6 month N=71; varying levels of severity and aphasia type
- Overall the Scale was responsive to change
- Various question from the model loaded onto the 5 SSS subdomains

- Interesting - the number 1 change - “Friends” (over the time frame seen in lower scores); Followed by (in decreasing amounts of change)
  - 2. Groups
  - 3. Satisfaction
  - 4. Relatives
  - 5. Children
Updates on Aphasia

Evaluation

- Stroke Social Network Scale: development and psychometric evaluation of a new patient-reported measure, Northcott & Hilari, 2013

- The authors provide clinical messages;
  - The SSS shows good internal consistency, validity, and responsiveness to change
  - The SSS may help clinicians those patients who are dissatisfied with their social networks
  - The scale can be used both for those with and without aphasia
Updates on Aphasia Evaluation

- Quick mention of a study on measuring QOL outcomes
- **Does mode of administration affect health-related quality-of-life outcomes after stroke?** Caute, et al., 2012, IJSLP (includes the 2 authors from previous study – in England)

- Examined administration of the Stroke and Aphasia Quality of Life Scale (SAQOL). The SAQOL is larger than the previously described with 39 items. Thus the acronym used is the SAQOL-39g
- Measured post-stroke QOL by interviewing face-to-face, telephone, and by mail (postal)
- Found that concordance between face-to-face and telephone “excellent”
- Concordance between face to face was “very good”

- Implications center around maximizing efficiency and minimizing costs
Updates on Aphasia Evaluation

- *Turning from technology in measuring QOL to language testing*
- *A Comparison of Computerized and Paper-Based Language Tests With Adults With Aphasia*, Newton, et al., 2013, AJSLP (England)
  - Again, authors point out the need to examining computer use in testing due to personnel and time issues; reducing financial costs and administrative needs
  - Per this study - look at equivalency of scores, efficiency of time, and participants views on the computerized methods
  - 15 patients with aphasia with varying degrees of severity
  - Needed vision enough to see screen and hear speech in quiet room
  - Pts did not have significant cognitive deficits
- Three test conditions
  - Computer only
  - Computer and clinician
  - Pen-and-paper
Updates on Aphasia Evaluation

- A Comparison of Computerized and Paper-Based Language Tests With Adults With Aphasia, Newton, et al., 2013

- Used two language tasks for the investigation, different sets per task type
  - Sentence-picture matching: heard sentence with 4 pictures present: Pt to pick the picture that best went with the sentence.
  - Items taken from the Comprehensive Aphasia Test (CAT; Swinburn, et al., 2004) and Test for Reception of Grammar (TROG; Bishop, 2003)
  - Grammaticality Judgment; Pt said whether each sentence was “good” or “bad” with a pointing response
  - Sentences from set used previously in a study by McDonald, 2000)
Updates on Aphasia

Evaluation

A Comparison of Computerized and Paper-Based Language Tests With Adults With Aphasia, Newton, et al., 2013

Questionnaires were also given to obtain information at different points in study

Before beginning conditions – Computer Aversion, Attitudes, and Familiarity Index (CAAFI; Schulenberg & Melton, 2008)

After each test condition – questionnaire devised for this study focused on their experience in the particular condition (picture quality, ease of response, and if they enjoyed the condition)

At end of last condition, pts completed a method preference questionnaire (adapted from a questionnaire used by Thompson et al., 2007)

Results follow -
Updates on Aphasia

Evaluation

- A Comparison of Computerized and Paper-Based Language Tests With Adults With Aphasia, Newton, et al., 2013

Results

- Equivalence between measures

  - Performance on the pen-and-paper method was significantly strongly correlated with the others (computer only and computer with clinician)

  - However - Scores from the Computer Only were significantly lower than the computer only, and to a lesser extent computer with clinician (not signif)

- Authors consider the increased cognitive load for the computerized methods

  -Pts may have had more stress or worries with computer use

    - They caution that computer scores should not be compared to other methods and that the norms provided from traditional administrations should also not be compared

    - They suggest that if a single testing method is used to start with, one should maintain the use of that method.
A Comparison of Computerized and Paper-Based Language Tests With Adults With Aphasia, Newton, et al., 2013

Results

Variables affecting performance on computerized assessments

Task length

Computers are thought of as taking longer but this hadn’t been well tested with the population

There was no significant difference in completion time between the 3 methods

Given roughly the same amount of time for administration, the authors state the advantage that the clinician can leave the room (thus more cost efficient)

Method preference – this is presented out of order - space issue - sorry

About half of pts did not express a preference on method (I found that surprising)

Pen-and-paper was the most commonly preferred among those that did have a preference; computer alone was their least
Updates on Aphasia

Evaluation

A Comparison of Computerized and Paper-Based Language Tests With Adults With Aphasia, Newton, et al., 2013

Results

Perceptions of pts following each condition

There is a list of how pts rated a number of variables

Just highlighting a few I found interesting; variable and averaged ratings (7 point Likert scale: 1 not at all - - 7 very much)

<table>
<thead>
<tr>
<th></th>
<th>Pen/Paper</th>
<th>Computer</th>
<th>Computer/Clinician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy response?</td>
<td>6.86</td>
<td>5.17</td>
<td>5.89</td>
</tr>
<tr>
<td>Nervous?</td>
<td>1.14</td>
<td>1.57</td>
<td>1.43</td>
</tr>
<tr>
<td>Enjoyed like this?</td>
<td>6.11</td>
<td>5.80</td>
<td>6.50</td>
</tr>
<tr>
<td>Confident in results?</td>
<td>5.29 (lowest??)</td>
<td>5.83</td>
<td>6.07</td>
</tr>
<tr>
<td>Happy to repeat?</td>
<td>6.64</td>
<td>6.40</td>
<td>6.70</td>
</tr>
</tbody>
</table>

All differences above reached significance

How comfortable are you with each type?
Updates on Aphasia Evaluation

Included under evaluation, though everything in eval relates to clinical work, really love this one for something we can use so often!


- We use picture naming tests all the time. Further, confrontation naming has been shown to correlate well with general language abilities.

- Many patients will have decent confrontation naming of noun; at least relative to other language function). However, the same pts typically have much greater difficulty with verbs. This although they share a lot of the same processing, especially early in the task.

- As I believe we are aware, verb retrieval takes a bit more semantic analysis; it activates more area of the semantic network (Segar, et al., 1999).

- It would be great to have norms for a verb confrontation task to add to a very functional ability. This would be very useful to track therapy effectiveness. *P.S. I love this!!!!*

In this work, Kurland, et al. add norms for verbs using the very well accepted (often used in research) set of standardized pictures by Snodgrass & Vanderwart (1980). These normed pictures are of objects (for associated noun) and were used in subsequent studies examining word associations (Fernandez, et al., 2004) and verb generation (Weiller, 1995). In the verb generation study by Fernandez, the verb generation was with word stimuli. Also, their norms are in German and Spanish!

In the current study they used the Snodgrass and Vanderwart line drawings as stimuli.

With a fairly limited # of subjects (50 normal), they presented the cards, asking subjects (Ss) to give the first 2 verbs they thought of. Only the first verbs produced were examined.
Updates on Aphasia Evaluation

- Beyond Picture Naming: Norms and Patient Data for a Verb-Generation Task, Kurland, et al., 2014,

- 2 phases of the study
  - Verb generation norms
  - Probing the verb generation as outcome measure in aphasia

- Verb generation norms (218 line drawings)
  - There was a lot of variability in what was produced. When looking at a picture of an object, there are a number of possible verb one could select from.
  - They found
    - 15 pictures had ≥ 90
    - 42 pictures had >75% agreement
    - Over half had >50% agreement
      - Example highest agreement: Chair, 96%; Scissors, 96%; Kite, 96%; finger
Updates on Aphasia
Evaluation

- Beyond Picture Naming: Norms and Patient Data for a Verb-Generation Task, Kurland, et al., 2014,

- 10 Highest Agreement:
  - Chair, = SIT, 96%;
  - Scissors = CUT, 96%
  - Kite = FLY, 96%
  - Finger = POINT, 96%
  - Piano = PLAY, 94%
  - Ruler = MEASURE, 92%
  - Pipe = SMOKE, 94%
  - Ladder = CLIMB, 94%
  - Door = OPEN, 92%
  - Toothbrush = BRUSH, 90%
Updates on Aphasia

Evaluation

- Beyond Picture Naming: Norms and Patient Data for a Verb-Generation Task, Kurland, et al., 2014

I found interesting -

- Some of Lowest Agreement:
  - Raccoon = WALK, 14%
  - Squirrel = EAT, 12%
  - Well = TURN, 12%
  - Hand = TOUCH, 14%
  - Toe = WALK, 18%

- The authors suggest that the “verb-generation normative data provided... will be useful for streamlining therapy and improving stimulus design in clinical and experimental applications.” (pg. 269)

- The norms are available in an appendix to the current article
Updates on Aphasia Evaluation

- Beyond Picture Naming: Norms and Patient Data for a Verb-Generation Task, Kurland, et al., 2014,

- 2nd phase of the study
- R.E., Probing the verb generation as outcome measure in aphasia

- Only 4 persons with aphasia; Mean = 36 mo post-onset – All had lesions somewhere in left inferior frontal gyrus; 1 had involvement of insula, basal ganglia, adjac white matter, and a bit of left ant/sup temporal; with Broadmann’s Areas 45 (Broca’s) and 47 mostly spared.

- Used 60 object line drawings

- First received 2 weeks of intensive therapies. Randomly assigned to one of either
  - Language Action Therapy (Pulvermüller & Berthier, 2008) OR
  - A modified version of Promoting Aphasic Communicative Effectiveness (PACE: Carlomagno, 1994; Davis & Wilcox, 1985)

- After the 2 weeks of intensive tx, they participated in 6 months of individually tailored “Home Practice” (using iPad)
Beyond Picture Naming: Norms and Patient Data for a Verb-Generation Task, Kurland, et al., 2014,

2nd phase of the study (continued)

R.E., Probing the verb generation as outcome measure in aphasia

Subjects with aphasia were tested twice; after 2 months and 6 months of the Home Practice; ) including trained and untrained stimuli

RESULTS: Went from producing no response or non-verbs for about 50% of stimuli (2 mo), to a reduced # bad responses to about 30% (6 mo).

Well, authors suggest that with the small N, we can’t draw conclusions!

Per me – At least we have some norms for our use so we CAN examine verb generation in our patients!! Love it!
Updates on Aphasia

- It is time to focus on some Therapy!
- Everything we’ve talked about leads directly to this.

So... *My typical cognitive WARNING – must now shift attention*

Leaving - Evaluation

Turning to – Therapy

(some select therapies)
Updates on Aphasia Treatment

First off – related to family involvement and what we know will add to patients’ Quality of Life

Very Cool!

‘You needed to rehab ... families as well’: family members’ own goals for aphasia rehabilitation, Howe, et al., 2012, IJCD (comes from New Zealand and Australia)

Idea - to document family members’ rehab goals for themselves
Updates on Aphasia Treatment

‘You needed to rehab ... families as well’: family members’ own goals for 
aphasia rehabilitation, Howe, et al., 2012

- Idea - to document family members’ rehab goals for themselves
- Had 48 family members of persons with aphasia
- Used in-depth semi-structured interviews
- Found seven (7) categories of goals that authors suggest should be used in rehab
‘You needed to rehab ... families as well’: family members’ own goals for aphasia rehabilitation, Howe, et al., 2012

Category 1

O To be included in rehabilitation
  O Wanted a “little more inclusion”
  O Especially in the early stages
  O This rather than just ‘progress updates” and being “dismissive” (they felt this? Dang! What are we doing?)
  O My case of spouse who had gathered LOTS of info, not knowing the basics and totally misinterpreting usefulness application to her spouse
  O In study, a respondent stated that the SLP should work on weekends to allow for more family involvement (will you do that?).
  O Also, one son reported that since he didn’t live with the pt, he wasn’t included in the rehab process
Updates on Aphasia Treatment

‘You needed to rehab ... families as well’: family members’ own goals for aphasia rehabilitation, Howe, et al., 2012

Category 2

- To be provided with hope and positivity
  - Some had impression people were trying to prepare them for the worse... not to get their hopes up (very negative)
  - A number reported that some hope would help keep them motivated and focus on the pt’s rehab
  - Some reported that they were told that the pt would only improve during the first 6 or 12 months. This caused concern with the deadline. One stated that he was told that the pt wouldn’t improve after 6 mo... yet has saw continued improvement years after onset!
‘You needed to rehab ... families as well’: family members’ own goals for aphasia rehabilitation, Howe, et al., 2012

Category 3

- To be able to communicate and maintain their relationship with the person with aphasia
  
  As example, one reported that they didn’t think the SLP knew how important it was to learn skills to help them communicate!

- Needed some way to translate the pts’ attempts at communicating (especially needs/emotions)

Question: Why are we SLPS letting this happen?
‘You needed to rehab ... families as well’: family members’ own goals for **aphasia rehabilitation**, Howe, et al., 2012

Category 4

- To be given information
  - Almost ALL wanted information about the disorder!
    - About aphasia, stroke, and what’s going happen tho the pt in the future
  - Some still wanted more information on resources years after stroke
  - When some information given early in the process some might not be able to process it, so they wanted something written information for later time.
  - Some mentioned wanting the info in ‘layman’s terms’ *(I say – shame on us)*
‘You needed to rehab ... families as well’: family members’ own goals for aphasia rehabilitation, Howe, et al., 2012

Category 5

- To be given support
  - A majority referred to this!
  - Mentioned types of support: General, psychosocial, and financial
    - Some wanted direct psych support (counselor, social worker)
    - Some wanted support from others who have been through the situation one on one or in a group

Me: As you have likely noticed, I’ve seen a real need for family support groups!
‘You needed to rehab ... families as well’: family members’ own goals for aphasia rehabilitation, Howe, et al., 2012

Category 6

- To look after their own mental, emotional and physical wellbeing
  - Reports of needing own space or time away to participate in life
  - Felt fatigue
    - One said they were “...doing extra thinking that you never had to cope with before...”
  - One wanted husband to attend aphasia group on his own, for her to have some time away from him
    (I don’t blame her – but this also conflicts with an earlier mentioned desire)
Updates on Aphasia Treatment

‘You needed to rehab ... families as well’: family members’ own goals for aphasia rehabilitation, Howe, et al., 2012

Category 7

- To be able to cope with new responsibilities

I see these as overlapping with Category 5, To be given support

- New roles they had – like now having to support the family, having to split time for work with time for the loved one
- Financial burdens
- Translating for the other person
- Some said they had lost any goals for themselves.
‘You needed to rehab ... families as well’: family members’ own goals for aphasia rehabilitation, Howe, et al., 2012

○ The upshot –

○ This study demonstrated lack of our consideration of intervention/treatment for the families

○ It suggests a major shortcoming of us SLPs

○ What can we do about it?
Updates on Aphasia Treatment

Some specific treatments – for patients!

- An Enhanced Protocol for Constraint-Induced Aphasia Therapy II: A Case Series, Margaret Johnson, et al., 2014, AJSLP (Univ of Montevallo & Univ of Birmingham, Alabama)
- Constraint-Induced Movement Therapy (CIMT) & Learned Nonuse led to the constraint-induced therapy we may use as SLPs
- CIMT used to diminish learned nonuse, in which pts don’t use the affected extremities
- CIMT is proven effective for improving motor deficits. Since the better extremities are discouraged from use, the must use the weaker limbs, and thus improvement is seen.
- Those with aphasia go through a similar “learned nonuse”... not talking since language output can be so slow and effortful. It’s much easier to not talk.
Updates on Aphasia Treatment

An Enhanced Protocol for Constraint-Induced Aphasia Therapy II: A Case Series, Margaret Johnson, et al., 2014

We know that without using speech and language, we will likely not see gains, and in some cases, see a decline.

- Constraint-Induced Aphasia Therapy (CIAT) was developed in 2001 (Pulvermüller, et al).
- Here, CIAT II added:
  - More variety in expressive exercises, and role-playing tasks (making it more similar to everyday life).
  - More intensive therapy (more verbal responses required and shaped) during the standard CIAT 3 hr session.
  - A transfer package (TP) to improve generalization.
    - Helping to move therapy gains into the real world.
  - Also, a 3rd week of training was added (2 wks in CIAT).
Updates on Aphasia Treatment

An Enhanced Protocol for Constraint-Induced Aphasia Therapy II: A Case Series, Margaret Johnson, et al., 2014

- This is a case series – only 4 subjects with chronic stoke (>1yr post), each with moderate Broca’s aphasia (50-80 on WAB-R)
- Each agreed to have caregiver in all therapy
- Since caregivers were there for tx, they could supervise practice for homework after tx was completed; also added to realism and role-playing

Treatment

- 3 hr each weekday over 3 weeks; also 30min daily on transfer package (TP), total of 52.5 in-lab tx; treated in cohorts of 2 (interacted together)
- Use of gesture or non-verbal vocalization strongly discouraged (basis of constraint-induced therapy); clinician didn’t respond to these other responses and cautioned against them
- The various exercises used are provided in the article (exs, lang card game, picture description, ADL phrase repetition, etc.)
Updates on Aphasia Treatment

An Enhanced Protocol for Constraint-Induced Aphasia Therapy II: A Case Series, Margaret Johnson, et al., 2014

- **Transfer Package included**
- Behavioral contracts: 1 for pt (to speak as much as possible) and 1 for caregiver (encourage speech and limit their aid)
- Home diary (using caregiver help) on amount they spoke each day for home skill assignments
- Home skill assignments – a number of language tasks to use in the daily environment
Updates on Aphasia Treatment

An Enhanced Protocol for Constraint-Induced Aphasia Therapy II: A Case Series, Margaret Johnson, et al., 2014

- Transfer Package - continued
- Verbal Activity Log (VAL – provided as appendix) – a scale per their language use in certain specified situations (talking while eating, using sentences when talking, etc.) AND how well they did with their speech (used but required help, speech not used at all for an activity, etc.)
  VAL was completed and probed during the daily Transfer Package time in clinic
- Posttreatment Problem solving – assigned for after the treatment period
- Posttreatment telephone contacts (weekly in 1st mo posttreatment then monthly for next 5 mo – 6 week total post tx). Completed VAL and did some problem solving
Updates on Aphasia Treatment

An Enhanced Protocol for Constraint-Induced Aphasia Therapy II: A Case Series, Margaret Johnson, et al., 2014

- **Results Posttreatment**
  - The subjects had a large amount of increase in pt/caregiver reported participation in speech
    - Additional improvement seen at 6 mo follow-up
      - Both posttreatment and 6 mo were statistically significant
  - Subjects made large improvements in speech capacity (measured by WAB-R AQ; these improvements didn’t reach significance - but had p=.077

- These were preliminary results by Johnson et al. and suggest the need for further consideration

- **Upshot**
  - CIAT has been shown to be efficacious
  - This study using the CIAT II resulted in significant improvements and demonstrated promise
Updates on Aphasia Treatment

- The Effects of Modified Melodic Intonation Therapy on Nonfluent Aphasia: A Pilot Study, Conklyn et al., 2012, JSLHR (Music Settlement & Cleveland Clinic Foundation)
- Melodic Intonation Therapy (MIT) was developed by Albert, Sparks, & Helm (1973) and Sparks & Holland (1976)
- Makes use of pts’ ability to sing in order to facilitate speech output
- With left hemisphere damage, singing and tapping with the left hand may make use of the intact right hemisphere
The Effects of Modified Melodic Intonation Therapy on Nonfluent Aphasia: A Pilot Study, Conklyn et al., 2012

The Modified Melodic Intonation Therapy (MMIT) has the following changes:

1. Clinician composes and uses unique melodies that closely match the spoken phrase in terms of pitch and rhythm

2. Use full phrases in initial treatment; to use areas that allow pts to sing full lines of songs

3. MMIT should be initiated within the first few weeks post stroke; based on theory that early treatment provides the best results
Updates on Aphasia Treatment

- The Effects of Modified Melodic Intonation Therapy on Nonfluent Aphasia: A Pilot Study, Conklyn et al., 2012

Using pts with Broca’s aphasia (n=14 no tx controls; n=16 MMIT pts)

Two hypotheses

- After 1 session, acute care pts with MMIT will make greater positive change as compared to controls without treatment.

- MMIT pts will make greater positive gains (from pretest scores) over multiple (2) sessions as compared to controls.

For inclusion, pts had auditory processing adequate to follow 2 simple commands, be able to sing a min of 25% of words of “Happy Birthday”, and demonstrate self-awareness of their speech deficits.
Updates on Aphasia Treatment

The Effects of Modified Melodic Intonation Therapy on Nonfluent Aphasia: A Pilot Study, Conklyn et al., 2012

Results

- Significant change pre to post test for MMIT group at 1st visit, no other pre-post test scores were significant (treatment or control group)
  - Matched 1st hypothesis
- The MMIT group continued to demonstrate more improvement than controls after 2nd visit

Upshot -

- Early treatment with MMIT may help pts with immediate needs and facilitate the transition in rehabilitation
- May reduce initial frustration and demonstrate to the pt that the can produce meaningful words
Updates on Aphasia Treatment

O Modified Response Elaboration Training: Application to Procedural Discourse and Personal Recounts, Wambaugh et al., 2013, AJSLP (VA & Univ of Utah)

O Response Elaboration Therapy (RET) was developed by Kevin Kearns (1985)
O Goal to increase content and length of utterance
O Uses patient generated responses – concept of “loose training”
O Since based on pts’ own responses – with elaboration modeled by the clinician – this tx has generalization not seen in most programs
O Wambaugh & Martinez (2000) dropped the pictures and replaced them with a Modified RET (M-RET) personal recounts, based on the pts’ own experiences. They demonstrated gains with this tx
Updates on Aphasia Treatment

- **Modified Response Elaboration Training: Application to Procedural Discourse and Personal Recounts**, Wambaugh et al., 2013

- This 2013 research reports a M-RET using both Personal Recounts and Procedural Discourse and it includes less severe pts than the past

- 3 subjects used who demonstrated mild to moderate chronic agrammatic aphasia; (2 with concomitant AOS, pt 1 did not) 12 to 424 mo post onset

- Design: 2 (2 pts) and 3 (1 pt) sessions M-RET, single subject multiple baseline across behaviors

- **Procedural Discourse**: Used well known activities (ex., “Tell me in detail how you would go about getting groceries.”)
  - Pt given as much time as need to reply
  - Response reinforced and clinician gave prompt for elaboration “Is there anything else?”

CONTINUED – next slide
Updates on Aphasia Treatment

- Modified Response Elaboration Training: Application to Procedural Discourse and Personal Recounts, Wambaugh et al., 2013

- Procedural - continued
  - If given, clinician reinforces and combines and models the initial and added information, which was then practiced
  - If not given, responses options were given by clinician, then combined with the original response, and then practiced

- Personal Recounts: Pts asked to talk about any topic(s) of their choice for period of 5 minutes; if under 5 min, pt was asked “You still have a little time left. Could you tell me anything else?”
  - In general, same procedures were utilized (See Wambaugh, 2013 for additional detail)
Updates on Aphasia Treatment

- Modified Response Elaboration Training: Application to Procedural Discourse and Personal Recounts, Wambaugh et al., 2013

- Primary Outcome Variable
  - Number of appropriate content information units (CIUs)
  - Other date are presented in article, but limiting coverage here

- Results/Discussion
  - Pts 2 & 3 pts made “strong gains” in #CIUs for treated Procedural Discourse: Pt 1 made gains in CIUs, but not as quickly and not as strong (note – pt 1 only without AOS!)
  - There were no treatment effects for Personal Recounts
  - There were also a analyses of novel words (NW: reflecting “creative language”). All three made increases in the treated Procedural Discourse. P2 also in untreated.
  - Gains in NWs is reflected in the increase in CIUs.
Updates on Aphasia Treatment

- Found this very exciting – so useful in 2015, and beyond...

- Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013, JSLHR (U Arizona)

- As Pélagie Beeson points out, the value of lexical writing in aphasia treatment

- It is now the age of the texting, and the usefulness of tx (with gains of course) is apparent
  (Aren’t texts supposed to be short? How great is that for agrammatic pts?!!)

And so, this neat report of one pt’s tx
Updates on Aphasia Treatment

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

Based on Beeson’s Copy and Recall Treatment (CART; 1999, Beeson, Hirsch, & Rewega, 2002)

- This tx uses paper and pencil
- Having developed CART, the technique was adapted to a texting approach – T-CART
- The procedure used for T-CART was as similar to CART as possible
- The patient
  - 31ys, large L hem stroke, chronic Broca’s with apraxia of Speech (AOS), 2yrs post-onset,
  - Pre-treatment WAB AQ = 38.9: 1 of 60 correct on Boston Naming Test (BNT)
  - Had some tx right after onset and 12 weeks tx just prior to study
  - 6 weeks of CART; targeted word increased 1% to 90%, spoken words from 12% to 46%
Updates on Aphasia Treatment

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

Patient – continued

- 12 yrs education; dense Rt hemiparesis
- Motivated for possible texting using cell phone

Since you will probably want to try this, I’m including instructions. Pèlagie has a great description, and I would advise you to read her works for adherence to the procedures. She’s fantastic!

CART:

- For study, 1 hr tx, 2X wk, 13 wks (in clinic and homework)
- Determine potential functional target picturable words (pt & family, high frequency in pt’s life, etc.); in study 30 words broken into 6 sets/5 words each
Updates on Aphasia Treatment

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

- CART – Overview Clinical Procedures
  - Clinician presents picture of target & models
  - Pt repeat target until correct
  - Clinician writes target
  - Pt copies target until 3X correct (pt says word as writes – spoken model as needed)
  - Spellings covered, pt writes target; if incorrect pt shown model and writes 3X; continues until pt can write target from memory
  - Only written response is used to task/data (not spoken)
  - Move to next target word (My Note: limit # targets)
Updates on Aphasia Treatment

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

CART – continued

Daily Homework: Set of targeted words, uses picture stimuli

- Clinician clearly records words
- Pt makes repeated recordings own speech for practice/review
- Pencil/Paper practice
  - Pictures across top of page; 8 spaces below for repeated copying

T-CART next slide
Updates on Aphasia Treatment

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

T-CART Overview (kept as close to CART as possible)

- **In Clinic** (pt should be able to put phone in text mode)
- Study used capital block letters
- Used 5 set block of words; criterion 80% to move to next set
- Spoken naming mirrors CART

Clinician models correct target on pt’s phone then pt copies on phone until 3 correct

  - Single spaces between each entry

Text deleted and pt attempts word from memory

If incorrect, misspelling erased and again entered-modeled by clinician

Process repeats until pts enters correctly from memory
Updates on Aphasia Treatment

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

T-CART – continued

**Daily Homework**: Set of targeted words, uses picture stimuli

- **Text Practice**
  - Pictures across top of page; 8 check boxes below (☐); checked after each time typed
  - Can check accuracy from visual model on back of paper
  - Clinician checks homework for accuracy each following session
Updates on Aphasia Treatment

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

Initial Patient Outcomes -
After approximately 15 hours clinic treatment and 15 hrs homework over 9 wks

- Improved spelling and naming for all words (CART & T-CART)
- Maintain high accuracy
- No generalization to untrained sets
- Follow-up 19 & 22 wks post-treatment
  - Retention of CART targets

T-CART next slide
Updates on Aphasia Treatment

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

T-CART Outcomes

- Spellings were recognizable approximation
  - Examples given – family = FAMILE, violin = VIOLEN
- On post-treatment probes, CART maintained accuracy of spoken naming on all but 1 word
- On post-treatment probes, T-CART spoken errors on all but 1 word (opposite of above)
  - Spoken errors were recognizable approximations – often phoneme deleted, distortion, or sound substitution

Follow-up next slide
Updates on Aphasia

Writing Treatment for Aphasia: A Texting Approach, Beeson, et al., 2013

T-CART Outcomes - 20 wk follow-up - Great functional outcome

- WAB AQ improved from 38.9 to 45.4
- Feedback reported
  - Pt reported written words as “somewhat better” and textoed words as “a lot better”
  - Pr reported ability to say treated words as “a lot better”
  - Pt preferred to use texting rather than pen and paper when communicating face-to-face
  - Pt used texting simple message independently to family when not together (how cool is that?)
- 2 year follow-up: pt still using! Per Beeson et al., he seemed to be using phone as a personal communication device!
- Note: T-CART may be the norm for the future. Screen pts for use!?
DISCUSSION

- Contact Information: Scott Rubin
  srubin@lsuhsc.edu or srubin1958@gmail.com
  LSUHSC, COMD, 1900 Gravier St., New Orleans, LA 70117  Cell: 504 638-1590
- Please visit us at “David’s Apple” http://www.davidsapple.com/#