Evidence and expertise in discourse-oriented aphasia rehabilitation: LUNA findings and future

KEYNOTE
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Stroke Association
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LUNA
Language
Underpins
Narrative in
Aphasia

Clinical Expertise
Best Research Evidence
Patient Values
EBP
Phase 1 - review the evidence
- to understand SLTs’ perceived knowledge, skills, confidence and use of discourse analyses and treatment in aphasia

Phase 2 - survey clinicians
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Phase 3 - develop LUNA materials
- to check that we can train SLTs in the LUNA discourse analysis method in a single training session, and that they reach the required levels (accuracy and efficiency)

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Phase 5 - test LUNA
Discourse status quo

*Improved everyday talking (discourse) is an outcome desired by people with aphasia*¹,²; *is considered the endpoint goal of treatment by research trialists*³ and others⁴; *but is problematic to measure*³,⁴ with an uncertain evidence base⁵ and demonstrated lack of generalisation from word and sentence treatments⁶. *Use in clinical practice is hindered by lack of resources, capability, and confidence⁷,⁸,⁹, and compounded by a lack of guidance from researchers about what to measure¹⁰,¹¹.*
Aim Phase 1

LUNA Phase 1 synthesizes the existing discourse treatments describing the interventions provided and their effectiveness (amongst other aims)
Method

- Scopus, Medline and EmBase databases

- Search terms: ['discourse' or 'narrative' or 'story' or 'storytelling' or 'connected speech'] and ['intervention' or 'treatment' or 'therapy'] and ['aphasia' or 'dysphasia'] & a further search using the string ['connected speech'] and ['intervention' or 'treatment' or 'therapy'] and ['aphasia' or 'dysphasia']

- Conducted 25/05/2018 and 18/07/2018
Method continued

- 268 records identified
- Included if addressed aphasia, primary data, peer-reviewed, English language, targeted spoken discourse, was direct SLT intervention, assessed discourse as an outcome, was discourse targeted intervention*
- Study quality appraised and treatments categorized by team members independently and agreed through consensus

*There had to be an explicit statement that cueing, correction, feedback or scaffolding was provided by the clinician for a particular activity, in order for it to be included as a ‘therapeutic activity’ which could then be coded*
Results Headlines

■ 25 papers reporting on 127 participants with mostly post-stroke aphasia which is mainly mild to moderate non-fluent and with range of TPO but bias towards >1yr
■ WAB AQ used in 14/25 studies; participants ranged in AQ from 9.7-91.8 (but usually ~50-70)

■ 6 different categories of discourse treatments

■ 22/25 studies reported improvements
  ■ 21 studies improved single word production
  ■ 8 studies improved sentence production
  ■ 7 studies improved macrostructure
Results Headlines Context

- Low quality evidence
- Inconsistent pattern of assessment
  - Assessment tool, and
  - Levels assessed/ outcomed
- Inconsistent use of inferential statistics
- Inconsistent assessment of maintenance
- Possible publication bias?
LUNA evidence synthesis

Categories of treatment

- Single word
- Sentence
- Script
- Discourse
- Multi-level 2
- Multi-level 3
- No consensus
LUNA evidence synthesis

25 papers & 127 ppl

- Single word
  - 5 studies
  - 12 ppl

- No consensus
  - 2 studies
  - 13 ppl

- Sentence
  - 5 studies
  - 30 ppl

- Multi-level 2
  - 5 studies
  - 16 ppl

- Multi-level 3
  - 3 studies
  - 28 ppl

- Discourse
  - 2 studies
  - 5 ppl

- Script
  - 3 studies
  - 23 ppl

Distribution of papers

No consensus

Multi-level 2

Multi-level 3

Sentence

Discourse

Script
Discourse treatments

LUNA evidence synthesis

SFA, phon & orth cueing, target in group discussion & RIPP

AAC-supported storytelling, sentences in narratives

OrLA, CIAT, TUF, M-RET

Verbs + VNeST + group conversation, NARNIA

PACE, HELPSS, M-RET, self-monitoring, story grammar

Aphasia Scripts™

Retell of video clips, topic-based discussion

Specific treatment approaches
Types discourse used in therapy

Discourse stimuli

- Picture description using group PACE, story retelling, doc-based group conversation
- ORLA, sentence activities, SVO in games/stories/conversation, personal and procedural
- Personalised monologues and dialogues
- Story telling, video-based story retelling
- Object/scene and picture sequence description, storytelling, HELPSS + PACE, conversation, personal discourse
- Language games, functional scripts, topic based group conversation, picture sequences, events, opinions
- Personalised stories, picture sequences, wordless picture books

LUNA evidence synthesis
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Effectiveness
So where does this evidence and these findings lead us?
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Clear implications for future research…

Clearly more robustly planned research is needed that

- Employs high quality designs
- Uses statistical analyses
- Outcomes across all 3 levels
- Includes maintenance period
- Intentionally treats all 3 levels
- Uses an agreed set of discourse outcome indicators AND agreed discourse stimuli for assessment AND ideally agreed standardized language and other assessments
Implications for practice

It would appear that people’s single word production almost always improved regardless of treatment type delivered

→ potentially widely applicable

→ single word treatment with a discourse flavour?
Implications for practice

People’s sentence and macrostructure functioning require intentional explicit treatment to achieve gain

→ 10 studies offer insights here with some more instructive than others → 2 especially so
Join the LUNA community by subscribing by email (free) to our blog and follow our guided reading approach to these key studies for clinical implications [https://blogs.city.ac.uk/luna/](https://blogs.city.ac.uk/luna/)
Aim Phase 2

LUNA Phase 2 investigates SLTs’ views and reported discourse analysis practices in aphasia rehabilitation, views on clinical feasibility, and perceived facilitators and barriers to discourse analysis.
Methods

- Recruited via national professional associations (RCSLT & BAS), NHS, and via twitter
- SLTs practicing for at least 6 months with patients with aphasia in the UK
- Online survey open for 16 weeks (Aug-Dec 2018)
- Adapted from Bryant et al. 2017 and augmented with questions based on the Theoretical Domains Framework (Cane et al., 2012)
- 49 questions: 14 demographic & background; 35 DA views and practices
- Descriptive and inferential statistics, and content analysis
Sample characteristics (N=211)

96% female, 4% male
Range of geographical areas: 15% Greater London; 18% SE England; 14% SW England; 16% Midlands & E England; 28% N England; 5% Scotland; 2% NI; 2% Wales
Genre and transcription findings

1. Use: profiling and goal setting > diagnosis and OM
2. 70% SLTs collect discourse within initial Ax battery
3. 96% SLTs used standardized test picture description and 87/88% use personal/procedural recounts
4. <33% SLTs record samples
5. Transcription in real time most favoured approach (69%)

How often do you transcribe?

- Always: 2
- Usually: 3
- Sometimes: 29
- Rarely: 48
- Never: 18
Analysis findings

95% SLT's make clinical judgments

16% SLT's only conduct detailed analysis

Most (61%) follow no specific procedure

Manual counting (words or structures) most popular at 53%
Clinicians also used discourse to analyse

A broader range of macro-structure discourse level behaviours
- completeness, sequencing, coherence, gist

AND
- awareness and insight
- strategy use
- effectiveness of functional ability, and
- other influences (cognition, emotion, and co-occurring communication disorder or sensory impairment)
Timed clinical feasibility findings

60-120 minutes = general assessment practices

DA needs to take 60-90 minutes max

In the current economic climate in the NHS, there are significant resource implications linked to aphasia work and therefore discourse analysis. People with Aphasia are receiving less therapy than in previous generations. Assessment of discourse needs to be directly linked to clients goals in order to justify any time spent on it. Assessment, transcription and analysis needs to take under one hour in total. (ID#110)
- Time constraints (78%)
- Training (39%)
- Resources/equipment (38%)
- Variable workplace support & encouragement
- Patient severity
- SLT judgment of N/A

- No set protocol (84%)
- Expertise (43%)
- Confidence (47%)
- Some negative emotional experience associated with DA (confusion & frustration)
Facilitators

- DA within SLT role (90%)
- DA important in overall clinical management (83%)
- 76% want training
- 74% want assistive tools
- 71% want time
- 54% want new analytical tools
So what have we found? How does it compare?
More UK SLTs are on the road less taken
And there is more use of discourse analysis as an assessment and as an outcome measure.
Barriers for UK SLTs are similar to existing studies
The lack of this is a concern
Implications for future research

■ Consider the local context in EBP

■ Consensus on a protocol of ideal versus essential discourse measures for assessment and outcome measurement* for aphasia rehabilitation

■ Develop/ refine existing assistive tools for use across the discourse analysis process

■ Further research into the impact of training on clinicians’ discourse analysis skills and belief in capability
Find your champion
Buddy for support
Start small with one patient
Do a case study in your team/service
Collect at least 2 different genres as samples
Record it! Transcribe it! Use students/assistants
Sign up to LUNA to hear more about the analyses we trained
Write to LUNA to tell us how you’re going
Get discourse Ax and/or Trx on your PDP and/or service agenda

Use existing mechanisms e.g. journal club or projects for promoting discourse in the workplace

Seriously discuss what possible solutions there are for time
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Phase 5 - test LUNA
The final word goes to one of our survey respondents

I think the LUNA project is so very important as every stroke patient you meet says "I just want to be able to talk again". In reality this means discourse, but my pre-reg training was very focused on single word level interventions and not discourse, so it's hard to know a time-efficient and clinically evidence-based approach for discourse analysis. I'm highly motivated to do it, but time-poor and would really value training. I think it's wonderful that LUNA is being conducted. Thank you (ID#209)
References


