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How do we assess gesture in clinical practice? A prototype City Gesture Checklist (CGC)

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Workshop Outline

1.50-1.55	**Introduction** and research consent request
1.55-2.05	**Warm up activity** – testing the City Gesture Checklist together
2.05-2.20	**Testing the CGC** to assess patient video data
2.20-2.45	**Small group** and then whole group review of experience
2.45-3.05	**Presentation**: Gesture in Aphasia – classification and assessment
3.05-3.15	**Discussion/questions**
3.15-3.20	**Key Learning Points**

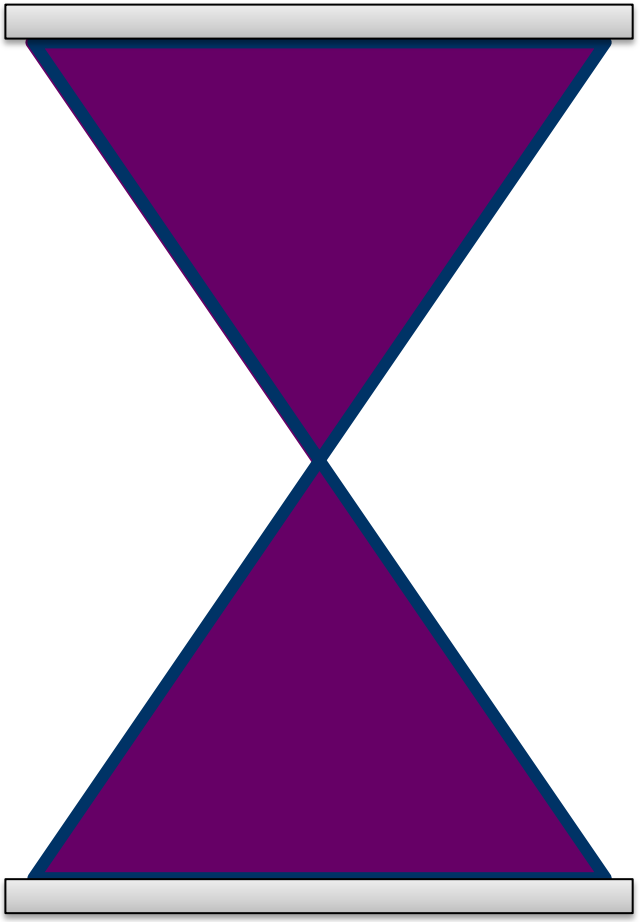
Introduction

- Developing a novel “quick and dirty” gesture screening tool
  - Synthesis of research literature
  - 3 prototypes
  - Co-design workshop in July with 20 SLTs
  - Produced CGC v1
- Research project:
  - Feedback
  - Analysis
  - Further development of tool

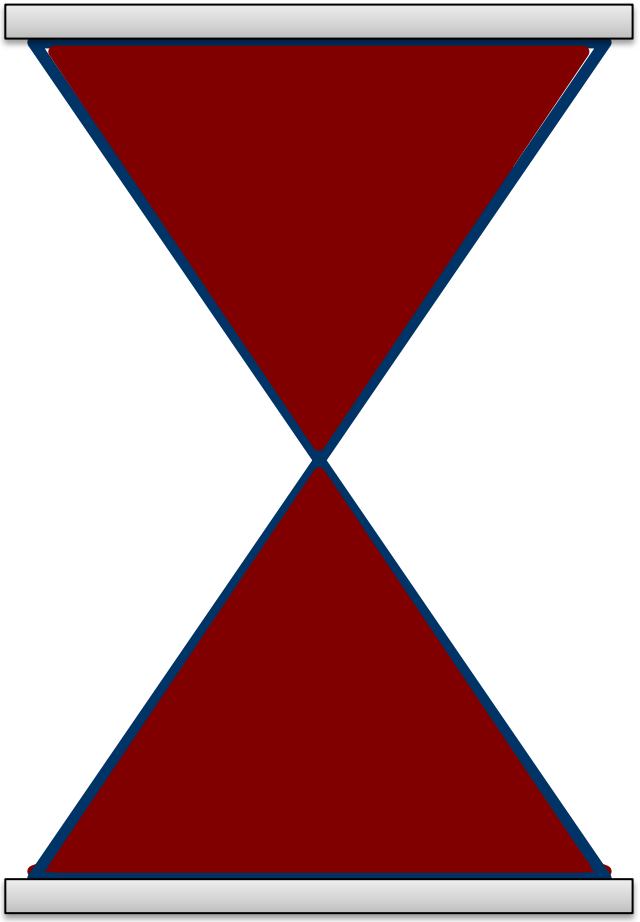
Warm up activity

- Make a group of three
- Once instructed, follow the directions within your envelope
- You will have 1 minute to read and consider, then three minutes to carry out the task.

Thinking Time (1 Minute)



Activity Time (3 minutes)



Test out the Gesture Checklist

- Pair up with another group of three
- Use the CGC to assess two different videos of conversation
- You will have a couple of minutes to read the CGC and then one chance to score each video.

Video 1: severe aphasia

Video 2: moderate aphasia

Small group discussion

- Think about:

- What **makes the CGC fit for purpose** in your clinical practice?

- What **prevents it being fit for purpose**?

Whole group discussion

- What **makes the CGC fit for purpose** in your clinical practice?

- What **prevents it being fit for purpose**?

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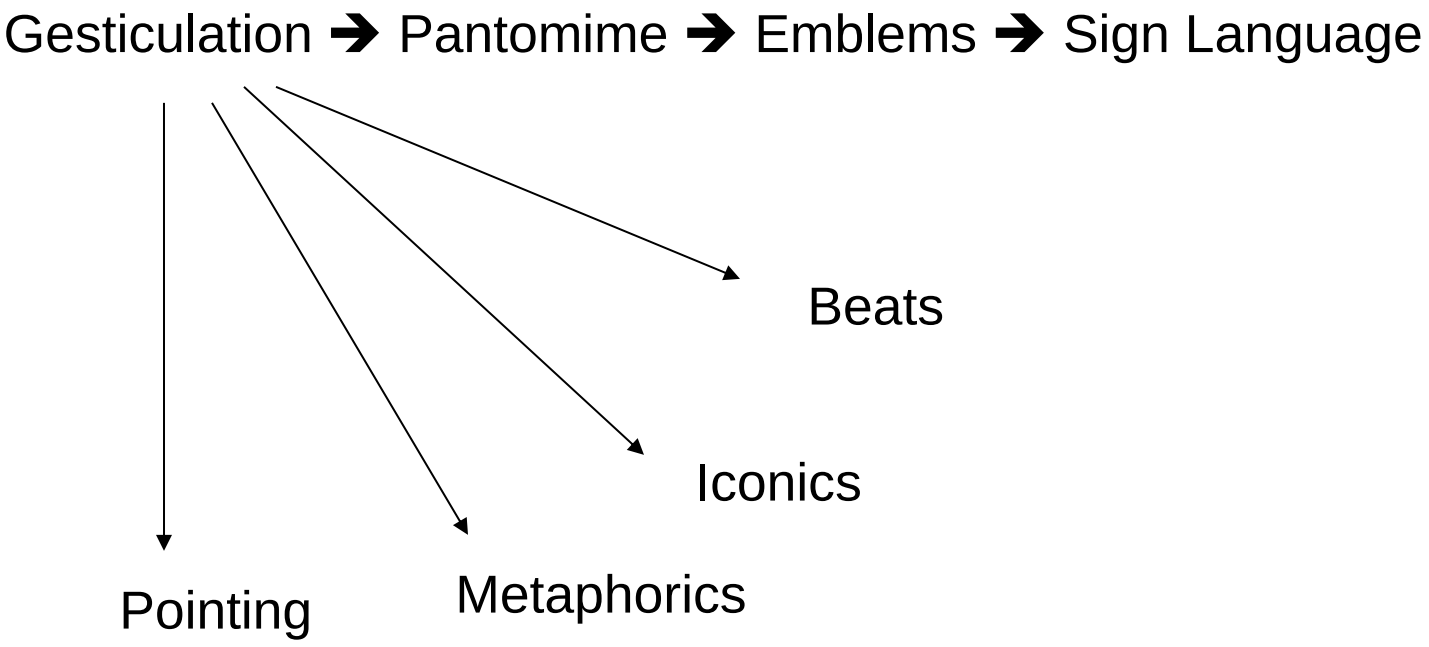
Gesture in Aphasia: classification and assessment

What is Gesture?
The Kendon Continuum



Language-Gesture Differences

Gesture

- (Mainly) manual modality
- Has no grammatical or phonological structure
- Idiosyncratic but iconic forms

Language

- (Usually) spoken modality
- Has grammatical and phonological structure
- Consistent but arbitrary forms

Language-Gesture Links

- Co-speech gesture is universal, even when the speaker is not visible to the listener (Alibali et al, 2001)
- Gesture and speech collaborate in conveying meaning (Kendon, 2000; McNeill 2005)
- Gesture may facilitate speech

  At the conceptual level
  - (Melinger and Kita, 2007)

  At the word form level
  - (Krauss et al, 2000)

Evidence from Aphasia

- Gesture may be preserved in aphasia
- Some people with aphasia able to use complex gesture (e.g. Kemmerer et al, 2007; Wilkinson et al, 2010; Parr 2007)

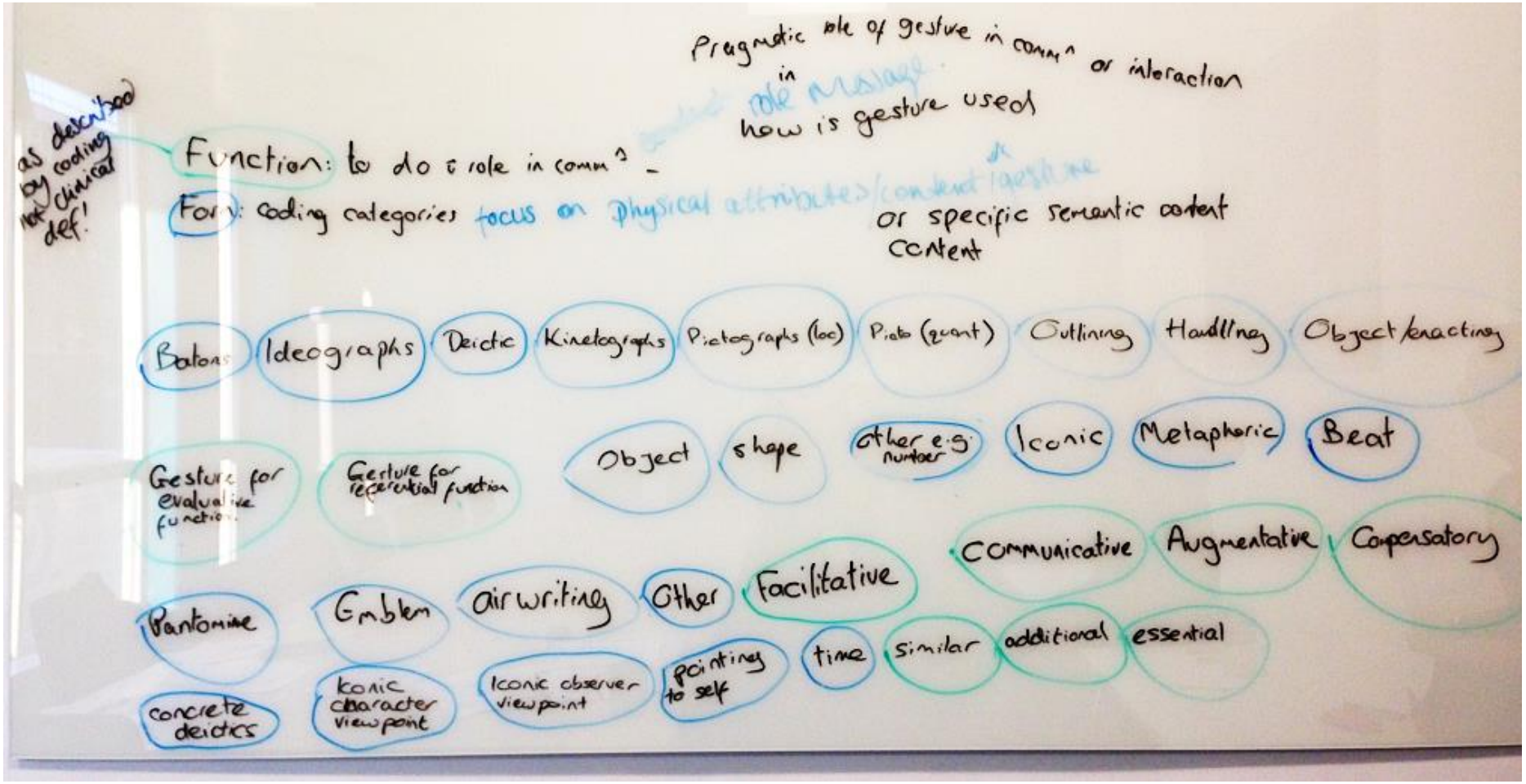
However ..

- Gesture impairments are often observed in aphasia (e.g. Duffy et al,1994; Mol et al., 2013; van Nispen et al., 2017)

- Due to other stroke related impairments?
  - executive function (Purdy & Koch, 2006)
  - praxis (Hogrefe et al, 2012)
  - semantic processing (Goldenberg et al, 2003; 2007; Hogrefe et al, 2012)

How do different people with aphasia gesture?

Classifying how people with aphasia use gesture



Comparing people with aphasia to healthy controls: Form

- ***What type of gestures do people with aphasia produce?***

- More limited range of gesture types

  - More reliant on shape gestures (Mol et al., 2013; van Nispen et al., 2015, Cocks et al., 2010)

Comparing people with aphasia to healthy controls: Function

- ***How do people with aphasia use gesture?***

- People with aphasia rely on gesture more than healthy controls to get their message across

  - More “essential” gestures (van Nispen et al., 2017)

  - Help to resolve word finding difficulties? (e.g. Kistner, 2017)

Previous Studies of Gesture Therapy

To compensate for speech (e.g. Daumuller & Goldenberg, 2010; Marshall et al, 2012; Caute et al, 2013)

To facilitate speech (e.g. Boo & Rose, 2011; Marangolo et al, 2010; Rose & Douglas, 2008)

Findings:

- Even people with severe aphasia can improve gesture production
- Treatments with a gesture component can enhance naming

But

- There are few experimental studies of compensatory gesture therapy
- Treatments require high input from the SLT, and gains may be related to dose
- Examples from our PhD therapy studies:
  - Live Therapy (Caute et al, 2013)
  - GeST Computer Therapy (Roper et al, 2016)

Gesture Assessments

Question:
Was the gesture intelligible?

Gesturing items– rated by unfamiliar judge

Gesturing items to a familiar conversation partner

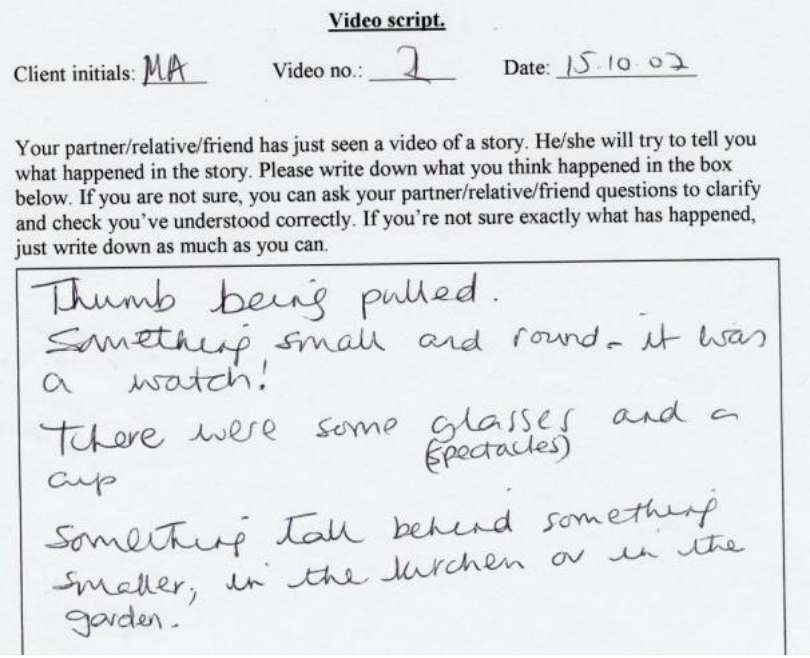
Gesturing messages to a familiar conversation partner

- Messages conveyed to partner who wrote script
- Examples:
- Where are my keys?

- I’ve had too much beer!

Gesturing video narratives to familiar conversation partner

- Before



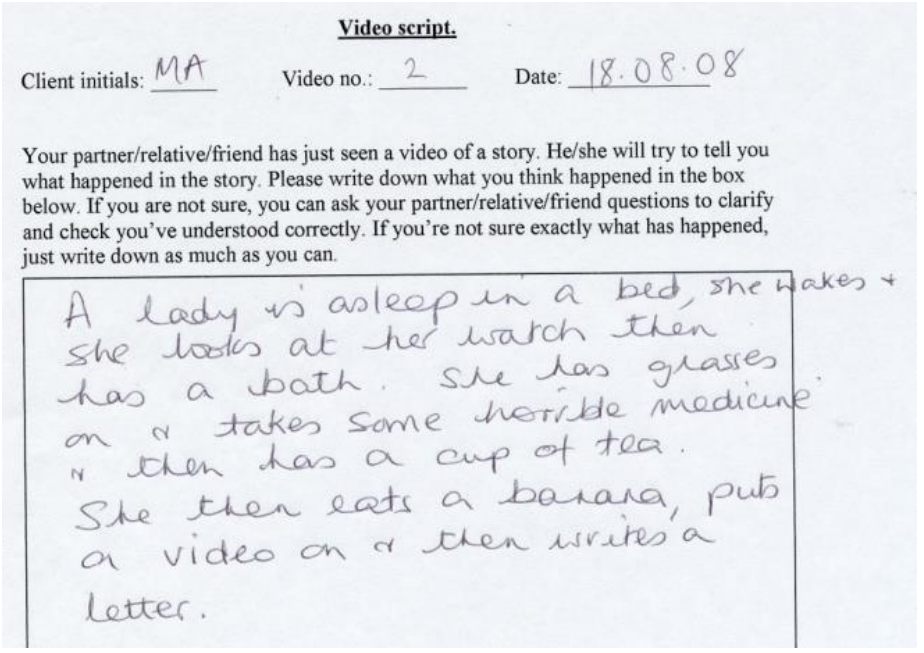
Video script.

Client initials: MA Video no.: 2 Date: 15.10.02

Your partner/relative/friend has just seen a video of a story. He/she will try to tell you what happened in the story. Please write down what you think happened in the box below. If you are not sure, you can ask your partner/relative/friend questions to clarify and check you've understood correctly. If you're not sure exactly what has happened, just write down as much as you can.

Thumb being pulled.
Something small and round - it was a watch!
There were some glasses (spectacles) and a cup
Something tall behind something smaller, in the kitchen or in the garden.

- After



Video script.

Client initials: MA Video no.: 2 Date: 18.08.08

Your partner/relative/friend has just seen a video of a story. He/she will try to tell you what happened in the story. Please write down what you think happened in the box below. If you are not sure, you can ask your partner/relative/friend questions to clarify and check you've understood correctly. If you're not sure exactly what has happened, just write down as much as you can.

A lady is asleep in a bed, she wakes & she looks at her watch then has a bath. She has glasses on & takes some horrible medicine & then has a cup of tea. She then eats a banana, puts a video on & then writes a letter.

Scoring message and video scripts

Each message/ key event scored out of 4

E.g. Target= **The aeroplane is noisy**

- Script: “That’s a noisy aeroplane”= 4
- Script: “Plane”= 2
- Script: “Ears hurting”= 1
- Script: “Bird” = 0

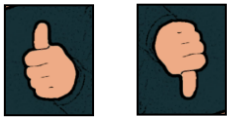
City Gesture Checklist

Question:

How does a person with aphasia use gesture?

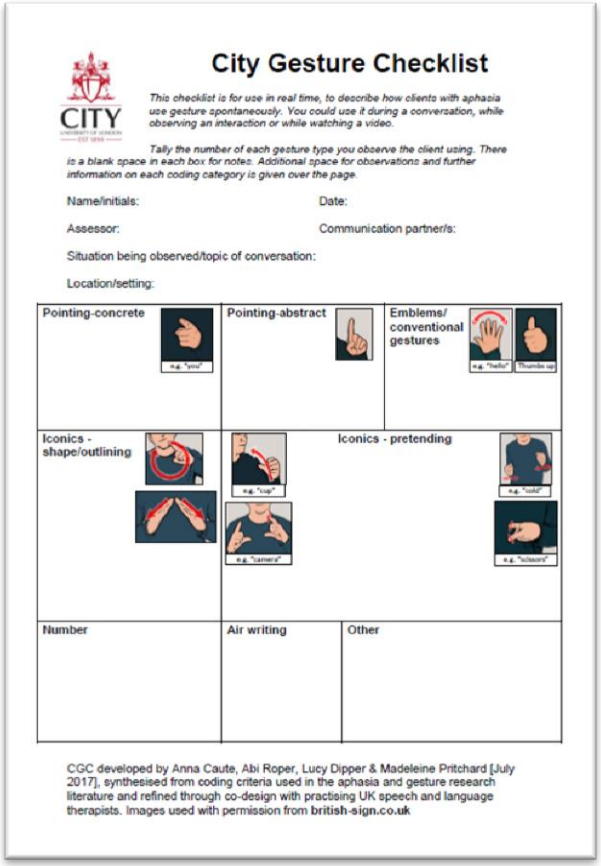
City Gesture Checklist

- Gesture screening tool
  - Evaluates types of gesture (form)
  - Transcription-less
  - Clinical observations
  - Co-designed with SLTs



- Clinically useful??

- In development- we need your feedback!



City Gesture Checklist

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This checklist is for use in real time, to describe how clients with aphasia use gesture spontaneously. You could use it during a conversation, while observing an interaction or while watching a video.

Tally the number of each gesture type you observe the client using. There is a blank space in each box for notes. Additional space for observations and further information on each coding category is given over the page.

Name/initials: Date:

Assessor: Communication partner/s:

Situation being observed/topic of conversation:

Location/setting:

Pointing-concrete	Pointing-abstract	Emblems/ conventional gestures
Iconics - shape/outlining	Iconics - pretending	
Number	Air writing	Other

CGC developed by Anna Caute, Abi Roper, Lucy Dipper & Madeleine Pritchard [July 2017], synthesised from coding criteria used in the aphasia and gesture research literature and refined through co-design with practising UK speech and language therapists. Images used with permission from **british-sign.co.uk**

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Discussion
& Questions

Gesture assessment

- ***Do we need to explore how people use gesture?***
  - Strengths and weaknesses?
  - What gesture types they produce?
  - How they combine gesture with speech and other strategies?
  - What physical challenges they face?

- ***How best to measure interactive use of gesture?***
  - Video retell?
  - Conversation- unstructured?
  - Conversation on a topic?

Gesture therapy

- ***Further exploration of the role of the partner:***
  - Do partners look at gestures?
  - How do they respond to gestures?
  - What effect does this have on the conversation/interaction?
  - Do partners' responses to gestures change with training?

- ***Teaching techniques for gestures:***
  - Targeting gesture types that are difficult?
  - Targeting gesture types that are more effective?
  - Developing ability to select salient features for gesture?
  - Promoting flexibility?

Key Learning Points

- Gesture can be classified along a range of key communicative parameters
- Within aphasia, gesture can be used to compensate for language difficulties, however…
- Gesture is often impaired in aphasia
- People with aphasia can benefit from gesture therapy:
  - As a compensatory strategy
  - To facilitate speech

Relevance to other specialisms

- Gesture can be classified along a range of key communicative parameters
- Gesture can compensate for impaired language
- Gesture may facilitate word finding
- Gesture for conceptualisation (Kita et al., 2017)

Impact

- CGC is first gesture screening tool developed to be usable in clinical practice
- We hope it will inform clinicians in their assessment of gesture and lead to more tailored, evidence-based therapy gesture
- Your contribution will help us to make this a useful tool for both clinical practice and research

THANK YOU

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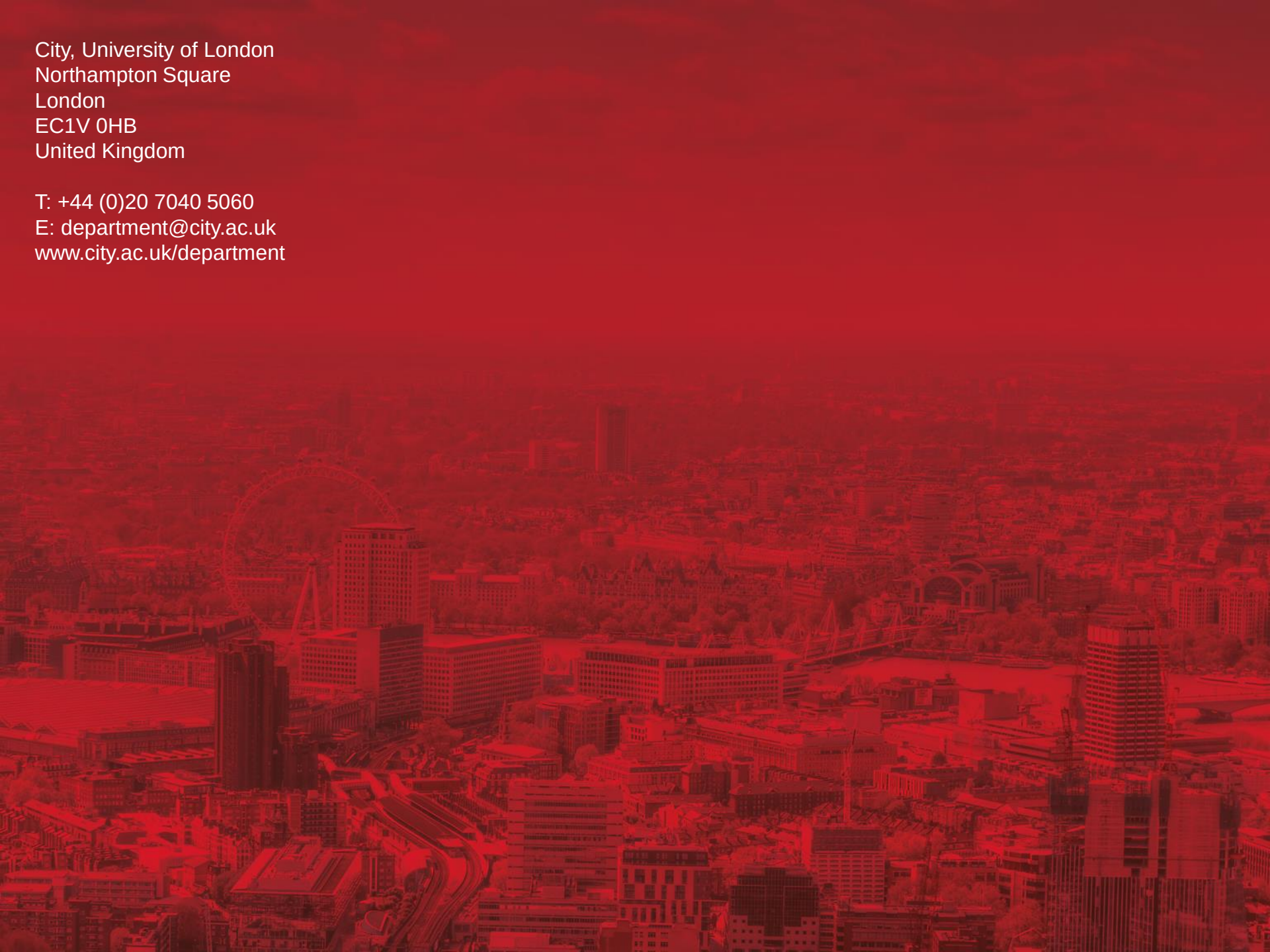
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