

Week 3 – Aphasia

Aphasia: Language disorder acquired as a result of brain damage (intellect not impacted)

Causes

Stroke, brain injury or inflammation (brain surgery or tumours)
Progressive brain disease (dementias) eg. Alzheimer's → progressive aphasia.
Note: temporo-parietal region of the left hemisphere controls language

Problems/Struggles

- **anomia** (finding the words) - most common
- speaking (+ understanding)
- writing (+ understanding)
- reading aloud
- repeating what is said
- gesturing

Impacts on life

- social isolation and exclusion
- difficulty maintaining relationships
- loss of work & financial hardship
- loss of leisure opportunities
- lack of access to information
- loss of opportunities to participate, negotiate, choose
- low confidence
- bewilderment, anger, frustration, depression and grief

Prognosis (chance of recovery)

Most improve over time. Most rapid improvement in first 3 months.

Treatment/rehab (speech pathologist) may continue indefinitely.
Most do not get back to normal.

Tips for communicating w/ aphasics

- don't shout
- use pen and paper
- don't pretend to understand
- slow down, patience
- diagrams/pictures
- write down key words

Types/patterns of impairment

receptive = problems understanding
expressive = problems communicating

Most people have both types but to differing degrees.

Categories/Syndromes of Aphasia

- Broca's aphasia (good comprehension, bad speech)
- Wernicke's aphasia (bad comprehension, good speech but nonsensical)
- Conduction aphasia
- Transcortical motor aphasia

Most people don't fit neatly within syndromes + each syndrome has range of diff deficits
Syndromes used as a shorthand to estimate initial severity.

Errors

- **Word finding problem (Anomia):**

Can happen b/c of diff cognitive reasons

- **Semantic errors:** related to target meaning
triangle = square

- **Phonological errors:** responses share sounds w/ target
triangle = trifle

- **Unrelated errors:** response unrelated to target in meaning or sound
frog = hunk

- **Visual errors:** name target as visually similar object
pretzel = knot

- **Circumlocution:** talk around the subject, give info about meaning
rocket = its a space vehicle

- **no specific response**
"I dont know"

- **Preservation:** stuck on same response
frog = cat, butter = cat, spaceship = cat

- **Syntactic errors**
I go sleep

Model for Word Production:

word meanings	(semantics)	fur, pet, red, small, stripey
word forms	(phonological lexicon)	cat, dog, bag, rabbit
word sounds	(phonemes)	<i>/c/ /a/ /t/</i>
		[sound]

Target activates relevant concepts and meanings (semantic features) stored in **word meanings** (semantics).

Activated semantic features then activate certain **word forms** (stored lexical knowledge).

The most activated word then gets sounded out in **word sounds**

Causes & Treatment

Semantic errors (triangle = square)

Cause: word meanings or word forms

word meanings deficit = ALSO problems writing, listening & reading comprehension.
word forms deficit = no problems with above

Treatment:

word meanings: Picture-word matching task (focus on word meanings)

word forms: Picture-word matching task works via priming + Phonological cueing hierarchy (naming pictures & repeating target names)

Phonological errors (triangle = trifle)

Cause: word sounds - may be missing certain sounds/syllables and activate a different one instead.

Does NOT effect written/reading/listening comprehension.

Treatment: Focus on sound errors and improve.

Broad treatment approach

(Most treatments involve activation of semantics and provision of phonology of the word)

The phonological cueing hierarchy:

- 1) Present picture to name
- 2) If can't name, give phonological cue
- 3) If still unable, give target name to repeat

Priming: repeated exposure to target word reduces extra activation needed to retrieve it (makes word retrieval easier)

Drugs might be used b/c conventional speech therapy is time consuming, expensive and difficult to implement.

Evidence based treatment

Choose treatment based on best available external clinical evidence found in a systematic review.