

# Language Disorders in Children with Epilepsy

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# Overview

- **Factors that contribute to language outcome**
- **Language difficulties associated with specific syndromes – LKS, CSWS, BRE**
- **Language function associated with other epilepsy diagnoses**
- **Recommendations for assessment**
- **Language and educational intervention**

# Factors that contribute to language outcome

*There is no unique language profile for most epilepsies*

- Intellectual ability
- Age of onset – early onset strongly predictive of language difficulties
- Seizure variables (control, duration)
- Type of epilepsy
- Cause of epilepsy
- Intervention – therapy, educational support, medication
- Individual reserve of child

# Landau – Kleffner/ Continuous slow spike and wave during sleep – comparison

## LKS

- Auditory agnosia
- Behavioural changes
- May present with aphasia or seizures
- Marked reduction or loss of speech

## CSWS

- No auditory agnosia
- Behavioural deterioration
- Impaired language
- Global cognitive decline

# Verbal Auditory Agnosia

- Also called 'word deafness'
- Affects perception of spoken language
- May be due to aberrant phonemic decoding
- May affect perception of pitch and emotional prosody
- May affect perception of all sound

# Language assessment – LKS

## Language History

- - development
- - age of onset
- - medication
- - performance variability

Speech: Rate  
Amount  
Quality

## ● Assessment:

Language: receptive & expressive

- Content (semantics)
  - Form (syntax)
  - Use (pragmatics)
- Auditory agnosia  
Environmental sounds  
Phonological processing

# Assessment – LKS (continued)

- *Preferably joint assessment with clinical neuropsychologist*
- *Watch for child's reliance on visual cues*
- *Use gesture*
- *Watch for responses to all sound*
- *Video – baseline*
- *Behavioural problems: reassure*

# Language assessment CSWS

## Language history:

- early development
- age of onset
- medication
- variability

Speech – rate, amount,  
quality

## Language assessment

- Content, form & use
- Standardised tests to obtain baseline measurements
- Receptive and expressive vocabulary



# Language assessment - BRE

- Routine speech and language assessment
- Child may have problems with working memory
- History: monitor school progress – especially reading and spelling
- Detailed assessment of phonological analysis skills

# Epilepsy can result in:

- Impaired or irregular progress
- Language stagnation
- Slow language development
- Intermittent dysfunction – may be subtle

*It can be difficult to distinguish between a transitory vs core deficit.*

# Assessment:

- **Standardised batteries**
- **Memory and attention**
- **Discourse: cohesion, reference, planning and organisation**
- **Word retrieval: confrontation naming plus word associations**
- **Phonological processing**
- **Longitudinal: measure receptive vocabulary**

# Discourse and epilepsy

- Limited research
- Strong links between epilepsy and behavioural problems
- Conversation is an important component of social skills

# Previous studies (discourse)

- Children with epilepsy speak less
- Use fewer referents (pronouns, demonstratives or comparatives)
- Use fewer connectives between sentences

*Observers may have difficulty tracking the child's ideas and identifying who they are talking about*

# Discourse – complex partial seizures (cps)

- Age and gender matches
- Children with CPS and primary generalised epilepsy were impaired with use of conversational repair
- Children with temporal lobes seizures made more syntactic and referential revisions
- Children with frontal lobe activity used few fillers

# Discourse (cont'd)

- **Overuse of syntactic and referential revisions makes conversation stilted, artificial and overdetailed. Percentage usually declines with age along with increase of more complex revisions.**
- **Fillers: associated with processing and planning conversation and are high level linguistic activity. Monitoring conversation is a frontal lobe function.**

# Intervention and educational issues

- Thorough assessment – medical, psychological, speech pathology
- Regular reviews
- Performance can be erratic
- Early intervention
- Speech therapy



# Strategies

- Integration aide
- Classroom seating
- Breaking information into small segments
- Using visual cues – labels; pictures
- Using computer programs
- Repetition and drills
- Pre-learning curriculum vocabulary
- Language component - IEP

# Strategies – auditory agnosia

- Individual assistance
- Intensive teaching of reading skills
- Use of auditory trainer/amplifier
- Functional/compensatory approach to language – visual aids/sign language
- Use of cued articulation (Passy) or ‘Prompt’ strategies
- Colour system to reinforce syntax and aid comprehension
- “Graphic” conversation balloons to help develop sequencing skills – stories.

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