NSW Speech Pathology
Evidence Based Practice Interest Group

Critically Appraised Topic (CAT)

CLINICAL BOTTOM LINE:
Auditory comprehension deficits may benefit from specific speech therapy treatment techniques. Which treatment task is appropriate will depend on the level of breakdown in auditory comprehension. Direct therapy using a multimodal approach (including auditory word, semantic cues, written word, pictures and gestures) may be beneficial in improving auditory comprehension of the treated items in individuals with semantic impairments. There is some suggestion that severe impairments in auditory discrimination (word sound deafness) may be hard to remediate, but that family training regarding the use of compensatory strategies may lead to significant functional gains, including decreased number of communication breakdowns in conversation. Reviewed publications were single case studies which may indicate a need for further studies with a greater number of subjects.

Background and Objectives:
Intervention targeting severe auditory comprehension deficits is challenging and the prognosis for communicative recovery is considered poor when auditory comprehension is severely impaired. The two predominant aims were to (i) confirm that evidence based techniques are being used (ii) investigate further therapy techniques that can be used in targeting auditory comprehension deficits.

Clinical Question
"What are the effective therapy techniques currently being used to improve auditory comprehension deficits in people with aphasia?"

Search Terms: Search terms- auditory comprehension, therapy, Aphasia, global aphasia.
Search engines: Cinahl, Medline, PsychINFO, Cochrane Library, Google Scholar, manual searching of reference lists.

Selection Criteria: Remediation of auditory comprehension deficits needed to be addressed by the study to be included in the literature review. All study subjects had auditory comprehension deficits as a result of stroke.

Results:
Three out of twelve publications were deemed appropriate for inclusion in the CAT and answered the clinical question above. All publications had Level IV evidence as per NH&MRC criteria. All three publications were single subjects: n=3 across three publications.

(1) Behrmann, M. & Lieberthal, T. (1989) – Treatment for an individual with a semantic impairment. All treated items showed increased semantic comprehension both intra- and post-therapy compared with pre-therapy using a multimodal approach (auditory semantic cues, spoken, written and picture form of the words). Therapy tasks included: teaching meaning/semantics of each category and each item within categories, written and verbal word – picture matching, auditory semantic feature-picture matching, matching spoken and written words to each other and to the picture, and locating items/target words in dictionary.

(2) Grayson E, Hilton R & Franklin S. (1997) – Treatment for an individual with semantic, auditory discrimination and sentence comprehension impairments. Specific language therapy targeting auditory discrimination, semantic and sentence processing resulted in significant improvements in these areas on specific tests. Therapy cues included repetition, gesture, semantic cues and orthographic cues. Specific therapy tasks included spoken word-picture matching, categorizing pictures into separate groups, matching written word associates and auditory sentence-picture matching.

(3) Maneta A, Marshall J, Lindsay J. (2001) – treatment for an individual with a severe auditory comprehension impairment with severe auditory discrimination problems (word sound deafness). Impairment based therapy was not effective for this patient with chronic aphasia, but there was some indication that encouraging lip reading improved accuracy in comprehension and repetition. However, therapy targeting the use of effective compensatory strategies **(writing key words/phrases, simplifying speech to single point of information, checking comprehension in conversation)** with the primary communication partner lead to significant functional gains, including decreased incidence of communication breakdown in conversation. These strategies were provided in a written information booklet, including the subject's strengths and weaknesses, and they were modeled and practiced within therapy sessions.

Appraised By: **Clinical Group:** **Adult Language Group**	**Date: November 2009**

References:

(1) Behrmann, M. & Lieberthal, T. (1989). Category-specific treatment of a lexical-semantic deficit: A single case study of global aphasia. *British Journal of Disorders of Communication*, 24, 281-299.

(2) Grayson, E., Hillton, R. & Franklin, S. (1997). Early intervention in a case of jargon aphasia: efficacy of language comprehension therapy. *European Journal of Disorders of Communication*, 32, 257-276.

(3) Maneta, A., Marshall, J., & Lindsay, J. (2001). Direct and indirect therapy for word sound deafness. *International Journal of Language & Communication Disorders*, 36(1): 91-106.