



# NSW Speech Pathology Evidence Based Practice Interest Group

## Critically Appraised Paper (CAP)

**CLINICAL BOTTOM LINE:** Use of pulse oximetry as a screening tool to detect penetrators/aspirators is best used in comparison with bedside assessment. A 2% drop in saturation was suggested as being significant in the studies reported.

**Clinical Question:** In patients with neurogenic dysphagia is pulse oximetry a reliable assessment tool for identifying episodes of aspiration?

**Search Terms:** See CAT

**Search Systems:** See CAT

**Citation:** Smith, H.A. , Phil, M., Joseph, C. (2003). Evaluation and Treatment of Dysphagia following Stroke. *Topics and Geriatric Rehabilitation*. 19, 1. 43-59.

**Design:** Systematic Review

**Participants:** 9 articles reviewed and described.

**Experimental Group:** None

**Results:** Significant desaturation during feeding may correlate with aspiration in dysphagia individuals. Specificity and predictive values for the techniques when used alone are poor, better when used with a bedside assessment. Patients with specific dysphagia maybe detected even if they do not aspirate. Predictive values are better for aspiration and penetration than just aspiration alone.

**Comments on Design:** Good search. Clear use of summaries and tables. Articles reported independently of each other due to difficulties comparing individual study designs. Limitations – patients only identified as penetrators or aspirators. Other confounding variables omitted i.e. age, medical condition etc.

**Level of Evidence (NH&MRC):** 111 (2)

**Appraised By:** Adult Speech and Language EBP group  
**Clinical Group:**

**Date:** 13/09/04

## Guidelines for completion of the CAP

### *Clinical Bottom Line*

The consensus of the reviewers on implications of the paper on clinical practice. Whilst this may be somewhat subjective, it is hoped that robust discussion, the Level of Evidence and your comments on the design will enable you to produce a practical/realistic 'bottom line'. Many of the papers in Speech Pathology may have limitations, but the Clinical Bottom line should be aimed to help clinicians apply what evidence there is.

### *Clinical Question*

This should ideally include four components:

- the patient or problem
- the intervention (or diagnostic test or prognostic factor)
- the comparison intervention or test (*optional*)
- the outcome

### *Design*

Refer to pages 12 to 15 of the EBPIG Resource Package for guidance in reviewing the design used.

### *Comments on Design*

Pages 12 to 15 of the Resource Manual should again assist here. You may also find it useful to refer to the forms 'Evaluating case studies/case series' and 'Critical appraisal sheet' adapted from Dr Lil Mikuletic's (see 'Critiquing/Appraising the Evidence').

### *Level of Evidence*

It is recommended that the paper you are reviewing be rated against the NH&MRC Levels of Evidence, as reproduced here. The levels may be updated from time to time by the NH&MRC, but use of the ratings listed here will ensure consistency across CATs and groups. These levels are listed with comments on pages 15 and 16 of the Resource Package.

#### **LEVEL**

- I.** Evidence obtained from a systematic review of all relevant controlled trials
- II.** Evidence obtained from at least one properly designed randomised controlled trial
- III.**
  - 1** Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation or some other method)
  - 2** Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies, or interrupted time series with a control group
  - 3** Evidence obtained from comparative studies with historical control, two or more single-arm studies or interrupted time series without a parallel control group
- IV.** Evidence obtained from case series, either post-test or pre-test and post-test