



# NSW Speech Pathology Evidence Based Practice Interest Group

## Critically Appraised Paper (CAP)

### CLINICAL BOTTOM LINE:

Aspirators had lower SpO<sub>2</sub> levels than non-aspirators before during and after feeding. Pulse oximetry was not shown to discriminate changes in SpO<sub>2</sub> during aspiration.

### Clinical Question:

In patients with neurogenic dysphagia, is pulse oximetry a reliable assessment tool in identifying episodes of aspiration?

### Citation:

Colodny N, Comparison of Dysphagics and Non-dysphagics on Pulse Oximetry during Oral Feeding. *Dysphagia* 15:68-73 (2000)

### Design/Method:

Baseline measures of SpO<sub>2</sub> and heart rate taken for 10 min, then taken every minute during the procedure and for 10 minutes after. The procedure involved fiberoptic endoscopic evaluation of swallow (FEES). Dysphagic subjects were given 5-150mls of liquid or puree as tolerated until aspiration via FEES. SPs were blinded to SpO<sub>2</sub> levels throughout FEES.

Average length of feeding = 12minutes (range: Aspiration on 1<sup>st</sup> bolus – 30min).

FEES were videorecorded & time of aspiration matched to corresponding SpO<sub>2</sub> printouts. A third SLP looked at FEES with SpO<sub>2</sub> printouts.

Controls were given approx 150mls of a liquid, puree, chewable solid while being monitored via pulse oximetry.

### Participants:

N = 181. 117 female, 64 male

### Experimental Group:

104 people with dysphagia aged 64-102 from Nursing Home (55 stroke, 27 dementia, 15 COPD, 7 other none dependent on oxygen)

**Control Group:** 77 without dysphagia (control) aged 23-93 from community. Nil history of dysphagia or neurological disease or head and neck cancer and eating a regular diet.

**Results:** Aspirators had lower SpO<sub>2</sub> levels before, during and after feeding compared with non-aspirators. No relation was found between SpO<sub>2</sub> levels and aspiration.

### Comments – Strengths/weaknesses of paper:

1/ Controls did not undergo FEES

2/ Trial amounts were small (5mls).

3/ 30 Normal controls were disregarded at results stage if younger than 65 (if you remove the young, then how do you measure the effect of age?)

**Level of Evidence (NH&MRC):** Cohort study – with design limitations (2 groups of patients, with only 1 having the full experimental intervention)

**Appraised By:** Adult Communication and Swallowing  
**Clinical Group:**

**Date:** 15 May 2006