



NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE:

The incidence of pneumonia was significantly less in patients given a mechanical soft diet and thickened fluids, however it is unclear as to how much the use of thickened fluids contributed to this decreased incidence.

Clinical Question [patient/problem, intervention, (comparison), outcome]:

Do thickened fluids reduce the risk of aspiration pneumonia?

Citation: Groher, ME. (1987). Bolus Management and aspiration pneumonia in patients with pseudobulbar dysphagia. *Dysphagia*, 1(4), 215-216.

Design/Method: Randomised control trial

Participants:

- 66 patients residing in a state-supported chronic care facility with histories of pseudobulbar dysphagia were the subjects.
- Inclusion criteria:
 - Taking a pureed diet with fluids
 - Had one or more radiographically confirmed episodes of aspiration pneumonia that had resolved at least 1 month before their inclusion in the study
 - Could self feed with minimal assistance in an upright position.
 - Had normal routine blood chemistries.
 - Were hydrated
 - Did not evidence any extension of their lesion during the study period
 - Could make their needs known and could follow 2-step auditory commands
 - No feeding or respiratory tubes in place
- The range of time between the patient's diagnosis and placement on pureed foods was 8 weeks to 7 years with a mean of 2.3 years.
- The study was completed over a time period of 3 years.

Experimental Group:

- Patients were randomly assigned to two groups:
 - 1) Pureed foods and unaltered fluids
 - 2) Soft mechanical diet with altered fluids such as half frozen juices, thickened nectars and milk products and jello prepared with excess water.
- Both groups received three meals daily in the dining room.
- Between meal snacks and supplements were restricted.
- Liquid medications were given orally to both groups and tablet/capsules were given in jello cubes.
- Every patient had monthly clinical examination and a bi monthly CXR to document any evidence of aspiration pneumonia.
- The patient was considered to have aspiration pneumonia if all of these findings were present:
 - 1) Fever
 - 2) Changes in respiration
 - 3) Rhonchi and rales to auscultation
 - 4) Atelectasis and infiltrate in a typical pattern.
- If a patient developed aspiration pneumonia they were treated and returned to the study.
- Patients were followed up for 6 months after entering the study. During this time 10 patients had to be eliminated due to deterioration and five died so there were data on 56 patients at the end of the study.

Control Group:

- No control group

Results:

- After 6 months there were 28 documented incidences of aspiration pneumonia in Group 1 and 5 incidences in Group 2 (a significant difference).
- Five patients in Group 1 had two episodes of aspiration pneumonia where as only one patient in Group 2 had multiple incidences.

May 2002

Form based on Worrall & Bennett, Evidence based Practice: Barriers & Facilitators for Speech-Language Pathologists, *Journal of Medical Speech-Language Pathology* 2:9, xi – xvi
Updated February 2006

Comments – Strengths/weaknesses of paper

Strengths:

- Level II evidence.
- Statistical analysis

Limitations:

- Unclear as to what types of fluids the patients were on prior to entering the study
- Unclear what contributed to the reduction in pneumonia in Group 2
- Upgrading patients who were on a puree diet to a mechanical soft diet → did they do any assessment?
- Description of thickened fluids is unclear – makes it difficult to replicate the study
- The use of half frozen juices and jello in Group 2 → we would still consider that a thin fluid
- Both groups given medications in liquid form or in a jello cube
- Lack of instrumental assessment (e.g. MBS) prior to the study – what was their swallowing status/aspiration risk?

Level of Evidence (NH&MRC): 2

Appraised By:

NSW Adult Swallowing EBP Group

Date:

6th November 2008