



NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE: A single patient with profound dysphagia and complete non-oral feeding following oral carcinoma improved remarkably following weekly treatment involving strengthening exercises with and without sEMG feedback. The patient eventually returned to complete oral nutrition. Despite this improvement, it is difficult to determine the role of biofeedback in the recovery due to single case study design.

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

Does sEMG change outcomes for patients with dysphagia and stroke or head and neck disease?

Citation: Bryant, M. (1991). Biofeedback in the treatment of a selected dysphagic patient. *Dysphagia* (6). 140-141.

Design/Method: A single patient received three sessions per week of outpatient therapy for 10 weeks. Sessions involved strengthening exercises: Valsalva and Mendelsohn manoeuvres performed with sEMG biofeedback. sEMG specifically monitored anterior belly of digastric, stylohyoid and mylohyoid. The patient was encouraged to alter her swallow to make "shapes" on the feedback screen, giving a visual target. Palatal strengthening exercises, thermal stimulation, vibration to the laryngeal/pharyngeal areas, chin tuck, head turn and supraglottic swallow were also used without biofeedback.

Participants: A single patient. 40 year old woman with a history of recurrent oral and lymphatic carcinoma, including: squamous cell carcinoma of the tongue, excision of the right tongue with grafting, right radial neck dissection, excisions of further recurrences in the right upper neck, dissection of the right facial nerve, lateral lobotomy of the right parotid gland, ligation of the external carotid artery, marginal mandibulectomy of right vertical ramus, and bilateral radiation post-surgery. The patient was completely non-oral feeding for a month prior to speech pathology assessment and intervention.

Experimental Group: Single patient as described above. No control group.

Results: The patient recovered progressively over the 10 weeks of treatment. Her management of secretions improved so she no longer required suctioning and she was able to commence oral intake and eventually return to a full oral diet by week 10. The patient was also able to produce voicing in conversation again.

Comments – Strengths/weaknesses of paper: This paper highlights that both clinician and patient found it beneficial to have a visual target during therapy. Positive results are indicated however without any control or comparison it is difficult to determine if sEMG affected the therapy results obtained or if these results would have occurred without sEMG.

Level of Evidence (NH&MRC): Level IV

Appraised By: Adult Swallowing Group
Clinical Group: Adult Swallowing Group

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