

## University of Groningen

### Protons in head-and-neck cancer

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## Comment

The authors provide intriguing evidence that intervention with a swallowing task is better than intervention with a nonswallowing task in very-low-birth-weight preterm infants. Since only infants identified by their neonatologists as “feeders and growers” and with a primary diagnosis of prematurity participated, it would be of great interest to include infants with other medical and developmental issues in future studies. In addition, it is unclear what was meant by the following instruction: “Caregivers were asked not to ‘encourage’ infants during the feeding so as to obtain an accurate gauge of our subjects’ own oral-feeding ability.”

## Evaluation and Management of Oropharyngeal Dysphagia in Different Types of Dementia: A Systematic Review

Alagiakrishnan K, Bhanji RA, Kurian M

*Arch Gerontol Geriatr* 2013;56:1–9

This systematic literature review determined the patterns of swallowing deficits in different types of dementia and examined the usefulness of different diagnostic tools and management strategies. A literature search using PubMed (Medline), Embase, Scopus, Psychinfo, and CINAHL from 1990 to 2011 was performed. A total of 1,010 records were identified and, after stratification for accuracy, 19 research articles met the inclusion criteria. Due to the heterogeneity in design and methodology, only descriptive (narrative) reporting was possible. Prevalence of dementia with dysphagia varied from 13 to 57 %, was more common in nursing home environments, and was dependent upon type of dementia (e.g., early stage of Alzheimer’s dementia, later stage of frontotemporal dementia). The clinical swallow examination alone cannot be used to rule out aspiration risk in patients with dementia as it underestimates aspiration risk in aspirators and overestimates aspiration risk in nonaspirators. Fiberoptic endoscopic evaluation of swallowing showed equivalent or greater sensitivity in detecting laryngeal penetration and tracheal aspiration as VFSS. Limited evidence for improving dysphagia was found in regard to the usefulness of postural changes, diet modifications (thickened fluids), behavioral management, and use of medications. Use of percutaneous endoscopic gastrostomy (PEG) tubes in advanced dementia did not show survival benefit, enhancement of quality of life, or decreased incidence of pneumonia. Additional research is needed due to significant knowledge gaps,

especially in regard to diagnosis and management of dysphagia in individuals with dementia.

## Comment

This is a sobering systematic review. Clinicians interested in dysphagia management in persons with dementia will find not only what is available in the literature but more importantly what is not available and needed. With the aging of the population, we need all the information we can get.

## Protons in Head-and-Neck Cancer: Bridging the Gap in Evidence

Ramaekers BLT, Grutters JPC, Pijls-Johannesma M, Lambin P, Joor MA, Langendijk JA

*Int J Radiat Oncol Biol Phys* 2013;85:1282–1288

A decision-analytic Markov cohort model was constructed to estimate the expected costs and quality-adjusted life years (QALY) of three treatment strategies: (1) intensity-modulated proton radiotherapy (IMPT) for all patients, (2) intensity-modulated radiotherapy (IMRT) for all patients, and (3) IMPT administered only to patients for whom it is expected to be cost-effective. IMPT for all patients and IMRT for all patients yielded 6.620 and 6.520 QALYs and cost 50,989 and 41,038 euros, respectively. IMPT when efficient yielded 6.563 QALYs and cost 43,650 euros. The incremental cost-effectiveness ratio of IMPT if efficient versus IMRT for all patients was 60,278 euros/QALY gained. IMRT was more effective (0.967 QALYs) and less expensive (8,218 euros) and, therefore, dominated IMPT for all patients. The increased effectiveness of IMPT did not outweigh the increased costs for all head and neck cancer patients. However, if one assumes equal survival between both IMPT and IMRT, it may be valuable to identify those patients for whom IMPT is cost-effective.

## Comment

This paper is an appropriate and reasonable start to the discussion of the use of protons for the treatment of head and neck cancers with the intent to treat for a cure while preserving swallow functioning. Protons may be helpful in some cases but the degree of benefit and the appropriate subsets are not defined. A potential flaw of most “theoretical” dose studies is that radiation planning systems for protons underestimate the secondary radiation, i.e., they look better than reality. Clinical trials, rather than a Markov model, are needed.