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A survey of enterally tube fed patients receiving ~800 kcal/d tube feeding regimens

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The British Artificial Nutrition Survey suggests that patients receiving long term tube feeding are an increasingly dependent population with low activity levels⁽¹⁾. It has been suggested that such patients may have lower energy requirements than predicted and need low energy tube feeding regimens in order to prevent weight gain^(2,3). However there is little published information about the use of low energy tube feeding regimens in the UK. Therefore a survey to investigate and characterise the numbers and types of patients receiving low energy tube feeding regimens of ~800 kcal total energy per day was undertaken.

A survey of adult tube fed patients (≥ 18 yrs) who were receiving a low energy tube feeding regimen (receiving < 1000 kcal/day) was undertaken in patients receiving enteral tube feeding at home (HETF) ($n = 1400$) or in a long term neuro-rehabilitation centre ($n = 108$) between July and September 2009. A standardised questionnaire, which included patient demographics (age, location, dependency, activity levels, diagnosis), tube type and feeding regimen details (duration, timing, energy and volume prescription) and reasons for low energy tube feeding, was completed for each patient from their dietetic notes.

2.2% (33/1508) of patients were receiving mean actual energy intakes of 800 kcal/d (SD 69, range 600–900 kcal/d) as a sole source of nutrition (this would equate to approximately 500 patients in the UK based on BANS data¹). These patients had a mean age of 44 yrs (SD 19, range 21–80), mean BMI: 24.8 kg/m² (SD 4.6), a mean time on tube feeding of 6 yrs (SD 5, range 1.3–22 yrs) and a mean time receiving ~800 kcal/d of 2.3 yrs (range 7 days–16 yrs, 16 patients (49%) had been receiving ~800 kcal/d for > 1 yr). The majority of patients had severe learning disabilities ($n = 9$), severe neuro-disabilities ($n = 7$) or stroke ($n = 4$). Patients resided either in nursing homes (64%) or their own/family homes (36%). All patients required full assistance for daily activities (100%) and were all very immobile (bed bound or bed rest (91%), very sedentary (9%)). Dietitians had prescribed ~800 kcal/d due to the patients' low energy requirements and gradual weight gain over time on higher energy regimens. The majority of patients ($n = 21$) were receiving regimens of between 600–900 kcal/d from a tube feed or sip feeds alone, regimens that were deficient in protein, electrolytes, vitamins and minerals. The remaining patients were receiving a number of feeding products to meet their nutritional requirements which were deficient in potassium, high in calcium and very complex and time consuming to provide.

The data from this survey suggests that ~2% of home enterally tube fed patients' are currently receiving ~800 kcal/d as a sole source of nutrition, with the use of a variety of nutritionally inadequate regimens. In addition to the need for a low energy nutritionally complete tube feeding regimen, more research is required to understand the nutritional requirements of this patient group.

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1. British Artificial Nutrition Survey (BANS) (2009) *BAPEN*.
2. Dickerson RN, Brown RO & Gervasio JG *et al.* (1999) *J Am Coll Nutr* **18**, 61–68.
3. Leone and Pencharz (2010) *Clin Nutr* **29**, 370–72.