

# Protein energy supplementation of usual hospital diet did not improve outcomes in inpatients with recent stroke

Dennis MS, Lewis SC, Warlow C. Routine oral nutritional supplementation for stroke patients in hospital (FOOD): a multicentre randomised controlled trial. *Lancet* 2005;**365**:755–63.

**Q** Does routine oral protein energy supplementation of a usual hospital diet improve outcomes in patients admitted with recent stroke?

## METHODS

**Design:** randomised controlled trial (FOOD [Feed Or Ordinary Diet] trials).

**Allocation:** concealed.

**Blinding:** blinded (outcome assessors).

**Follow up period:** median 6.7 months.

**Setting:** 125 hospitals in 15 countries.

**Patients:** 4023 patients (mean age 71 y, 53% men, 8% undernourished) who were admitted with a recent stroke (first or recurrent stroke  $\leq 7$  d before admission) and whose clinicians were uncertain about whether to use oral nutritional supplements after they had passed the swallow screen. Patients with subarachnoid haemorrhage were excluded. Patients could be enrolled within the first 30 days of admission or within 30 days of stroke occurring in hospital.

**Intervention:** usual hospital diet plus oral protein energy supplements (equivalent to 360 ml at 6.27 kJ/ml and 62.5 g/l in protein every day) (n = 2016) or usual hospital diet alone (n = 2007) until discharge.

**Outcomes:** a composite end point of all cause mortality or poor outcome (defined as modified Rankin scale [MRS] scores 3–5; 0 = no symptoms to 5 = requiring constant attention); and all cause mortality.

**Patient follow up:** 99.7% (intention to treat analysis).

## MAIN RESULTS

The groups did not differ for rates of the composite outcome or all cause mortality (table).

For correspondence: Professor M Dennis, Western General Hospital, Edinburgh, UK. martin.dennis@ed.ac.uk

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## CONCLUSION

Routine oral protein energy supplementation of a usual hospital diet did not improve outcomes in patients admitted with recent stroke.

A modified version of this abstract appears in *ACP Journal Club*.

## Commentary

Nutritional status at stroke onset is a prognostic factor for stroke outcome.<sup>1</sup> The relation between feeding and stroke outcomes were investigated by Dennis *et al*. The trial showed that routine oral protein energy supplementation did not lead to better outcomes in all stroke patients. However, the results did suggest a potential benefit for patients who were undernourished at hospital admission.

Study strengths included use of centralised randomisation, high follow up rates, and data collection systems that enabled the recruitment of a large number of patients.

The FOOD trial is clinically important because it highlights the issue of nutrition and its relation to health outcomes. Further research is needed to investigate the benefits of oral supplementation in malnourished patients at stroke onset.

Nurses have a vital role in early recognition and management of complications associated with feeding difficulties and malnutrition.<sup>2</sup> Malnutrition is a commonly occurring, yet often unrecognised problem in patients with stroke.<sup>3</sup> Although it makes intuitive sense to routinely add nutritional supplements to the diet of all patients with stroke, the FOOD trial did not support this practice. This observation reinforces the need for nurses to incorporate a series of standardised nutritional screens into the admission assessments and ongoing reassessments of all patients with stroke.<sup>4</sup> The use of such nutritional screens in the context of a patient centred approach to care will guide nurses in their use of nutritional supplements in patients with stroke.

Cami D'Uva, RN, MN, ACNP  
Charmaine Martin, RN, MSc(T), ACNP  
Integrated Stroke Unit, Hamilton Health Sciences  
Hamilton, Ontario, Canada

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Usual hospital diet plus oral protein energy supplements v usual hospital diet alone in patients admitted with recent stroke\*

Outcomes at median 6.7 months	Supplements	No supplements	RRR (95% CI)	NNH
Composite endpoint	59%	58%	1.5% (–3.6 to 6.9)	Not significant
			<b>RRR (CI)</b>	<b>NNT</b>
All cause mortality	12%	13%	5.2% (–11.8 to 19.6)	Not significant

\*Composite endpoint = all cause mortality or poor outcome defined as modified Rankin scale scores 3–5 (range 0–5). Abbreviations defined in glossary; RRI, RRR, NNH, NNT and CI calculated from data in article.