Enteral Nutrition (EN), Provided within 24 Hours of Intensive Care Unit (ICU) Admission, Significantly Reduces Mortality: A Meta–Analysis Excluding Trials with Major Flaws.

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Rationale
The only meta–analysis (MA) of early EN in ICU patients, published in 2003, fails to demonstrate a significant reduction in mortality however it includes trials with major methodological flaws.

The purpose of this project was to assess the impact of early EN on ICU patient outcomes, by conducting an MA that excludes trials with major flaws.

Methods
A sensitive Medline and EMBASE search was conducted using appropriate Medical Subject Heading terms. No restrictions were placed on language. Reference lists were hand searched and experts contacted.

Early EN was defined as commencing within 24 hours of ICU admission or injury. Standard care was defined as the provision of any nutritional support more than 24 hours after ICU admission. Only trials conducted in ICU populations, that delivered non–immune enhanced EN, were included. Trials with major flaws (pseudo–randomised or excessive loss to follow up) were excluded.

Results
665 papers were retrieved for detailed review. 8 trials containing 296 patients met the full inclusion criteria.

Of the 8 trials, 0 reported maintaining allocation concealment; 0 reported using some form of blinding; and 7 reported use of an intention–to–treat analysis.

Provision of early EN demonstrated a statistically significant reduction in mortality (OR=0.43 95%CI 0.19–0.96, I²=0% p=0.04) and a trend towards a reduction of pneumonia (OR=0.47 95%CI 0.21–1.05, I²=10.7% p=0.07) compared to standard care.

Conclusions
Up to 40% of patients who are eligible for early EN are not fed within 48 hours of ICU admission. This MA provides persuasive evidence that the delivery of EN within 24 hours of ICU admission significantly reduces mortality by up to 5%.

An identified barrier to early EN is fear of aspiration and development of pneumonia. This MA shows a trend toward a reduction in pneumonia with early EN.

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