

6.4 Enteral Nutrition (Other): Gastrostomy vs. Nasogastric Feeding

There were no new randomized controlled trials since the 2015 update and hence there are no changes to the following summary of evidence.

Question: Compared to nasogastric feeding, does feeding via a gastrostomy result in improved clinical outcomes in critically ill patients?

Summary of Evidence: There was one level 2 study that compared early enteral feeding via a percutaneous gastrostomy (within 24 hrs of intubation) to nasogastric feeds started within 48 hrs of intubation.

Mortality: There was no significant difference in ICU or hospital mortality between the groups.

Infections: There was a significant reduction in the incidence of ventilator associated pneumonia in the group receiving percutaneous enteral feeding when compared to nasogastric feeds ($p=0.036$) (RR=0.26, 95% CI 0.06,1.09).

LOS, Ventilator days: There were no differences in ICU length of stay or duration of mechanical ventilation between the groups.

Other: One patient in the gastrostomy feeding group developed pneumoperitoneum which resolved without any consequences.

Conclusions:

- 1) Early enteral feeding after intubation via percutaneous gastrostomy has no effect on mortality in critically ill patients.
- 2) Early enteral feeding after intubation via percutaneous gastrostomy is associated with a decrease in ventilator-associated pneumonia in critically ill patients.

Level 1 study: if all of the following are fulfilled: concealed randomization, blinded outcome adjudication and an intention to treat analysis.

Level 2 study: If any one of the above characteristics are unfulfilled

Table 1. Randomized studies comparing Gastrostomy vs. Nasogastric feeding

Study	Population	Methods (score)	Intervention	Mortality # (%)		Infections # (%)		Other	
				Experimental	Control	Experimental	Control	Experimental	Control
1) Kostadima 2005	Mechanically ventilated for stroke or head injury patients with GCS < 6 N = 41	C.Random: no ITT: yes Blinding: no (8)	Percutaneous gastrostomy feeds (PEG) within 24 hrs of intubation vs. nasogastric feeds 48 hrs after intubation. Both groups received continuous feeds at 60-80 ml/hr	ICU 4/20 (20)	ICU 6/21 (29)	Pneumonia 2/20 (10)	Pneumonia 8/21 (38)	ICU LOS 38.5 ± 14.2	38.5 ± 13.4
								Ventilation 37.3 ± 13.7	37.6 ± 12.8

GCS: Glasgow coma score
 LOS: length of stay

ICU: intensive care unit

C. Random: concealed randomization

ITT: intent to treat