

# Normal food at will and nil-by-mouth enteral feeding after major upper GI surgery did not differ for mortality or morbidity

## QUESTION

Does allowing normal food at will increase morbidity compared with “nil-by-mouth” enteral tube feeding (ETF) after major upper gastrointestinal (GI) surgery?

## METHODS

**Design:** randomised controlled trial (RCT).

**Allocation:** concealed.

**Blinding:** {unblinded}.\*

**Follow-up period:** 8 weeks.

**Setting:** 5 referral centres in Norway.

**Patients:** 453 patients (mean age 64 y, 59% men, based on 447 patients) who had major upper GI surgery. Exclusion criteria included severe extra-abdominal disease or trauma, life expectancy <3 months, or indications for parenteral nutrition.

**Interventions:** normal food at will (n = 220) or ETF by needle-catheter jejunostomy (n = 227) after surgery. ETF consisted of nutrition, 20 ml/h on day 1, increasing by 20 ml/h/d (if tolerated) up to 80 ml/h; after 5 days, patients were allowed food at will.

**Outcomes:** mortality, major complications (including bacteraemia, sepsis, pneumonia, wound rupture, and pancreatitis). Secondary outcomes included minor

complications (atelectasis, wound infection, and incisional hernia) and adverse events, bowel function, postoperative weight loss, and length of hospital stay.

**Patient follow-up:** 84%.

## MAIN RESULTS

Groups did not differ for mortality (table), major complications (table), minor complications and adverse events, time to first bowel movement, or postoperative weight loss. The food-at-will group had shorter time to first flatus and shorter length of hospital stay than the ETF group (table).

## CONCLUSION

Allowing normal food at will and nil-by-mouth enteral feeding after major upper gastrointestinal surgery did not differ for mortality and morbidity.

\*Information provided by author.

## ABSTRACTED FROM

**Lassen K**, Kjaeve J, Fetveit T, *et al*. Allowing normal food at will after major upper gastrointestinal surgery does not increase morbidity: a randomized multicenter trial. *Ann Surg* 2008;**247**:721–9.

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Allowing normal food at will v enteral tube feeding after major upper gastrointestinal surgery\*

Outcomes at 8 weeks	Food at will	Enteral tube feeding	RRR (95% CI)	NNT
Mortality	5.9%	8.4%	29% (–37 to 64)	Not significant
Major complications	28%	33%	16% (–11 to 36)	Not significant
			Difference (CI)	p-Value
Time to first flatus (d)	2.6	3.0	–0.4 (–0.7 to –0.2)	0.03
Length of hospital stay (d)	13.5	16.7	–3.2 (–6.3 to –0.1)	0.046

\*Abbreviations defined in glossary. RRR, NNT, and CI calculated from data in article.

The approach to feeding after major upper GI surgery varies, with reports indicating a trend toward a more conservative strategy of nil by mouth compared with early oral feedings at will.<sup>1</sup> The reluctance to initiate oral feedings stems from concerns about the integrity of the anastomosis as well as gastric dysmotility. A systematic review by Lewis *et al* identified 11 RCTs and found that feeding at will after major upper or lower GI surgery reduced infection and length of hospital stay, and increased vomiting.<sup>2</sup> Insufficient detail in reporting and poor methodological quality of the included trials limits generalisability.

The well-designed RCT by Lassen *et al* showed no differences in the primary end point of mortality or in complication rates. The food-at-will group showed

improvement in time to first flatus, an accepted indicator that bowel function has returned, although this did not translate to a significant difference in time to first bowel movement. Groups did not differ in the need for nasogastric decompression. At follow-up, more patients in the ETF group had wound infections and complications after discharge.

The study by Lassen *et al* provides additional support that food at will is well tolerated. Nil by mouth, often associated with routine nasogastric decompression and jejunostomy placement, may pose unnecessary discomfort and risk without providing additional benefits. The authors acknowledged heterogeneity of groups as many different procedures were represented. However, about 70% of procedures in both groups comprised 5 types of

procedures. Although some clinicians may hesitate in moving toward feeding at will, it should be considered: patients have shorter hospital stays and there is little difference in clinical outcomes for major general surgical procedures.

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1. **Lassen K**, Dejong CH, Ljungqvist O, *et al*. Nutritional support and oral intake after gastric resection in five northern European countries. *Dig Surg* 2005;**22**:346–52.
2. **Lewis SJ**, Egger M, Sylvester PA, *et al*. Early enteral feeding versus “nil by mouth” after gastrointestinal surgery: systematic review and meta-analysis of controlled trials. *BMJ* 2001;**323**:773–6.