

## Commentary

# Feeding after Gastrostomy: It's Time to Stop the Delay

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Percutaneous endoscopic gastrostomy (PEG) is a common procedure for those patients who are malnourished and unable to ingest adequate calories by mouth. In the past, initiation of feedings has been delayed after placement of a PEG based upon historical dogma of old surgical literature suggesting significantly delaying feedings after abdominal surgery. However, more recently, early initiation of feeding has been suggested as an alternative to delaying feeding until the next day or 24 hours after PEG.

As of 1993, multiple non-randomized prospective studies [1-4] and randomized controlled trials have been performed on feeding after PEG [5-10]. Chumley, et al. was the first randomized controlled trial evaluating early (3 hours) versus delayed (24 hours) feeding after PEG and found no differences between the groups for complications or gastric residual volumes [5]. In a 1995 randomized controlled trial at our institution, Brown, et al. found no significant differences in complications when comparing feeding within 3 hours versus next-day after PEG placement in 57 patients [6]. Subsequently, multiple other randomized controlled trials were performed showing similar results [7-10]. Despite the evidence suggesting early feeding after PEG may be just as safe, changes in clinical practice have been slow. In 2000, Srinivasan, et al. performed a survey study showing clinical practice may not reflect the literature for feeding after PEG. Although 81.5% of physicians were aware of literature regarding early feeding after PEG, 89.3% continued to delay feedings for four or more hours while only 10.7% fed patients within three hours [11]. Due to this difference in clinical practice and the literature, the first meta-analysis was published on this issue in 2008.

Our meta-analysis demonstrated no statistically significant differences between early ( $\leq 4$  hours) and delayed ( $> 4$  hours) feeding for complications and mortality with 72 hours [12]. However, gastric residual volumes during day 1 were slightly increased in those receiving early feedings (OR 1.80; 95% CI: 1.02-3.19;  $p=0.04$ ). Given that the clinical usefulness of monitoring gastric residual volumes has been heavily questioned in the literature over the past decade, this outcome likely has no clinical relevance in today's practice [13-15]. Furthermore, a second meta-analysis in 2011 demonstrated that

no statistically significant differences were noted between early ( $\leq 3$  hours) versus delayed ( $> 3$  hours) feeding after PEG for complications, mortality within 72 hours, and gastric residual volumes during day 1 (OR 1.46; 95% CI: 0.75-2.84;  $p=0.27$ ) [16]. Despite the multiple randomized controlled trials and meta-analyses, physicians continued to delay feedings in clinical practice.

In 2011, a repeat survey study of gastroenterologists conducted by Ali, et al. showed that 38% of private and 52% of academic gastroenterologists still delay feedings for more than 12 hours after PEG [17]. Given all the positive data related to early feeding after PEG, the dogma of delaying feedings seems to have more impact in practice than the evidence in the literature.

In 2013, our institution published a retrospective study on our experience on the use of early feeding ( $\leq 4$  hours) versus delayed ( $> 4$  hours) after PEG [18]. This study evaluated 444 patients from 2006-2011 and revealed no differences between the two groups for mortality (within 24 hours, 24-72 hours, or 3-30 days) or complications (wound infection, melena, vomiting, leakage, stomatitis, or other). Interestingly, in this study, gastroenterologists were much more likely to initiate feedings with 4 hours than surgeons (60% vs. 9%,  $p<0.01$ ).

With the overwhelming evidence in the literature for early feeding after PEG, including randomized controlled trials, meta-analyses, and a large retrospective study of long-term experience, it is time to stop delaying post-PEG feeding based upon the dogma of practice or experience of a prior mentor. Early feeding after PEG should be routinely performed in an effort to supply nutrition more rapidly to our malnourished patients requiring enteral nutrition via PEG.

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