

A re-audit of percutaneous endoscopic gastrostomy insertion, 5 years after an initial audit

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In 2001 a retrospective audit was performed of mortality and morbidity of percutaneous endoscopic gastrostomy (PEG) inserted over a 2-year period at a single unit (McCarthy, unpublished results). At that time the infection rate was found to be high at 32% and there was an overall high morbidity rate of 36%. PEG-related mortality was 3.4%. Following the audit, changes were implemented in clinical practice that it was hoped would improve clinical outcome in these patients.

These changes included review of all patients by a nutrition nurse specialist or member of the gastroenterology team (registrar or consultant) before referral to the endoscopy department. Use of prophylactic antibiotics in all patients and all patients with head-and-neck cancer receive an airway assessment before undergoing the procedure. All PEG were inspected at days – 3 post insertion to look for early complications. On discharge, any early problems were assessed in a rapid access clinic.

The aim of this current audit was to assess if these changes have led to less morbidity and mortality. The second audit looked at PEG insertions from November 2006 to November 2007 and compared the data with that of January 1999–January 2001. Information was collected retrospectively using endoscopy software, electronic patient records and contemporaneous records kept by the nutrition nurse specialist and dietitians.

	1999–2001	2006–7
Total no. of procedures	166*	80
Mean age (years)	72 (range 18–95)	58 (range16–96)
Indications		
Cerebrovascular accident	73/166 (44%)	5/80 (6%)
Head-and-neck cancer	17/166 (10%)	59/80 (74%)
Other	76/166 (46%)	16/80 (20%)
Success rate	166/166 (100%)	67/80 (84%)
Antibiotic use	47/166 (28%)	44/80 (55%)
Complications, early	0/166 (0%)	2/80 (2.5%)
Complications, late		
Tube blockage or displacement	2/145 (1.3%)	3/80 (3.8%)
Infection	46/145 (32%)	10/80 (12.5%)
Peritonitis	5/145 (3.4%)	0/80 (0%)
PEG-related mortality	2/145 (1.3%)	0/80 (0%)
PEG-related morbidity	53/145 (36%)	13/80 (16.3%)

*Average 81/year; 145 patients.

The annual number of procedures performed in the department remains constant (approximately eighty per year). However, there is a significant change in the indication for PEG, from predominantly cerebrovascular accidents in 2001 to head-and-neck cancers in 2007. The documented antibiotic usage appears to have only increased from 28% to 55%; however, it is believed that both in 2001 and 2007 these numbers reflect poor recording of antibiotic given rather than actual usage. A total of 16% of PEG insertions were not successful, largely due to technical contraindications at the time of the procedure. All these patients went on to have a radiologically-inserted gastrostomy. This safer approach has resulted in no cases of peritonitis and no tubes requiring replacement due to leakage or infection compared with 3.4% and 1.3% respectively in 2001. Importantly, the infection rate has dropped to 17.5% from 32%.

Overall, gastrostomy-related mortality has dropped from 1.3% in 2001 to 0% in 2007 and morbidity has fallen from 36% in 2001 to 29% in 2007. It is believed that these findings demonstrate a substantial reduction in morbidity and mortality in PEG patients following more rigorous assessment both pre- and post-tube insertion.