

OPERATIVE EVENTS

Key points

In 6% of PEG procedures no oxygen was administered.

30% of patients had combined topical anaesthesia and sedation.

9% of patients required reversal of sedation following their PEG insertion.

Table 33. Critical incidents during PEG procedures (answers may be multiple)

Critical incident	Total n = 660
Cardiac arrest	1
Hypoxaemia (SpO ₂ less than or equal to 90%)	21
Hypotension (systolic less than or equal to 100mm Hg)	2
Tachycardia (greater than or equal to 100 beats/minute)	8
Local haemorrhage	1
Viscus perforation	1
Other	5
Total	39
None	622
Not answered	59

Hypoxaemia, the most frequently reported critical event (Table 33), occurred in 3% (21/660) of cases where information was received. However, it is thought that critical events were under-reported as the review of casenotes by advisors revealed several instances of hypoxaemia and perforated viscus which were not acknowledged in the associated questionnaires.

Sedation and monitoring

For further comments on sedation and monitoring during GI endoscopy please refer to the earlier chapter entitled 'Sedation and Monitoring'.

Table 34. Oxygen administered during PEG procedure

Oxygen administered	Total	(%)
Yes	606	(94)
No	41	(6)
Sub-total	647	
Not answered	72	
Total	719	

Oxygen should be given to all patients undergoing a PEG procedure, yet at least 6% (41/647) of patients did not receive it (Table 34).

Table 35. Sedation and analgesia during PEG procedure (answers may be multiple)

Sedation and analgesia	Total n = 679
None	16
Local anaesthesia	245
Intravenous benzodiazepine sedation	542
Intravenous opioid sedation	47
Other intravenous sedation	15
Total	865
Not answered	40

Table 35 includes 27 patients who had a GA or were in ICU receiving IPPV. Where local analgesia was used, 6% (42/679) had the procedure done under topical local anaesthesia to the oropharynx alone and 30% (203/679) had topical anaesthesia to the oropharynx combined with some form of sedation.

NCEPOD advisors repeatedly expressed concerns that the use of sedation and local anaesthetic spray to the oropharynx may be implicated in pulmonary aspiration and postoperative respiratory complications. This concern was expressed particularly with regard to patients with dysphagia and a history of aspiration, in whom the supine position of the patient during the PEG procedure might facilitate further contamination to the respiratory tree.

The use of flumazenil and naloxone reversal during PEG procedure is presented in Table 36. The high number of questionnaires not answered may reflect missing data but it is more likely that the patient did not need their sedation reversed. The questionnaire should have made this question clearer.

Table 36. Flumazenil or naloxone administered during PEG procedure

	Total	(%)
Flumazenil	65	(96)
Naloxone and Flumazenil	2	(3)
Naloxone	1	(1)
Sub-total	68	
Not answered	651	
Total	719	

Reversal of sedation was required in 9% (68/719) of patients. This might reflect that some endoscopists have little awareness of the sensitivity that those with neurological disease have to sedative drugs. Best practice guidelines on sedation for PEG procedure may be helpful.