Naso-jejunal tube insertion - interface between radiology and endoscopy

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after placing NJ tubes. The responses suggested that there was a strong variation in the practice. The practice was independent on clinicians' area of interest, hospital setting or experience in endoscopy. Currently there are no accepted guidelines on this. Hence, we advise hospitals to have robust local guidelines until there is internationally agreed consensus.

Key words: Decision making; X-rays; Naso-jejunal tube; Nutrition; Documentation

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Core tip: Endoscopy and interventional radiology complement each other given the advances in both fields. Enteral feeding has been found to be useful in patients with poor oral intake. This may be achieved by placing jejunal tubes either endoscopically or by radiological guidance without the need for surgery. In order to ascertain if clinicians recommend radiological confirmation after placing jejunal tube endoscopically, we did a survey. We had 236 responses; wherein we found that there was strong variation in the practice. Clinical area of interest, years of experience in endoscopy and type of clinical setting made no significant change to the practice.

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Abstract

A survey was performed to identify the practice associated with endoscopic placement of naso-jejunal (NJ) tubes. We had a total of 236 responses, of which 228 responded to the frequency of requesting X-ray

TO THE EDITOR

We read Ray *et al* article Complementary roles of interventional radiology and therapeutic endoscopy

Table 1 Results of the survey

	I always ask for X-ray confirmation	I sometimes ask for X-ray confirmation	I ask for X-ray confirmation on the rare occasion	I never ask for X-ray confirmation	Analysis (χ^2 test)
All responders to the frequency of Requesting X-rays (<i>n</i> = 228)	26.80%	22.80%	21.00%	29.40%	
> 10 yr endoscopy experience (<i>n</i> = 152)	29.60%	25.70%	19.70%	25.00%	<i>P</i> = 0.13
6-10 yr Endoscopy experience (<i>n</i> = 46)	26.10%	19.50%	17.40%	37.00%	
3-5 yr endoscopy experience (<i>n</i> = 19)	15.80%	5.30%	26.30%	52.60%	
0-2 yr endoscopy experience (<i>n</i> = 8)	12.50%	25.00%	50.00%	12.50%	
Gastroenterologist with interest in a Speciality other than nutrition (<i>n</i> = 100)	28.00%	20.00%	20.00%	32.00%	<i>P</i> = 0.23
Gastroenterologist with nutrition Interest (<i>n</i> = 81)	27.20%	29.60%	21.00%	22.20%	
Gastroenterology trainee (<i>n</i> = 28)	14.30%	17.90%	21.40%	46.40%	<i>P</i> = 0.06
Practicing at general hospitals (<i>n</i> = 140)	28.10%	27.30%	17.30%	27.30%	
Practicing at academic hospitals (<i>n</i> = 82)	22.00%	15.90%	28.00%	34.10%	

in gastroenterology with interest. Besides what's been highlighted in the article, nasojunal tube (NJ) placement also has complementary roles of radiology and endoscopy. Enteral feeding has been known to be associated with excellent outcomes particularly in patients with poor oral intake^[1].

We did a survey to identify the practice associated with endoscopic placement (EP) of NJ tube. A survey prepared using survey monkey® was sent as an email to endoscopy members of BAPEN (British association of parenteral and enteral nutrition) and members of BSG (British society of gastroenterology). Email to BSG members were sent directly whilst the email to BAPEN members were sent through the assistance of BAPEN office.

Respondents were asked to provide information about their current practice. We had a total of 236 responses, of which 228 responded to the frequency of requesting X-ray after placing NJ tubes. BAPEN directly sent the invitation themselves, hence we are unable to comment on how many clinicians were invited to participate. We found that there was a variation in practice of requesting X-ray after placing NJ tubes. There was no statistical significance noted with regards to the practice of recommending X-ray confirmation based on the clinicians' experience in endoscopy, clinicians' area of expertise or places of work, *i.e.*, an academic unit or a general hospital. The practice was no different if the clinician had a special interest in nutrition.

Results are enclosed in the following Table 1. NJ tubes have been placed endoscopically since 1984^[2]. They can be safely placed without any significant complications^[3]. Our study shows that there is a variation in the practice associated with the practice of X-ray confirmation following EP of NJ tube.

The protagonists of the practice suggest that it

will be useful for documentation purposes and to detect inadvertent slippage of the tube into the airway following placement. Adverse events secondary to medical care seriously affect mortality and morbidity^[4]. However, as it is placed under direct view there are other endoscopists who suggest that it is unnecessary and it exposes patients to unnecessary radiation and delays decision to start feeding if X-ray confirmation is made mandatory prior to use. There is also an argument of increasing the workload of the already over-stretched radiology department. Studies which looked at EP NJ tubes placement where radiological confirmation was done have showed near perfect concordance between re-endoscopy and X-ray^[5]. These suggest that radiological confirmation may not be necessary.

There are different endoscopic techniques by which NJ tubes are placed. In the over-the-guidewire method, a guidewire is passed through the biopsy channel with the endoscope into the small bowel. Following this, the scope is removed, with the guidewire left in place and oronasal transfer of the wire is performed. The feeding tube is advanced over the wire into the jejunum^[6].

In the "through-the-scope" method (Figure 1), the feeding tube is passed through the working (biopsy) channel of the endoscope into the jejunum^[7]. Following this, the endoscope is withdrawn, but the tube is left in place. The procedure is completed after an oral to nasal tube transfer is performed.

A pragmatic approach might be to mainly request X-ray confirmation if the procedure had been difficult particularly if the procedure had taken longer time than usual or if there's narrowing of gastro-intestinal lumen.

It will be useful to have society guidelines pertaining to need for X-ray confirmation following EP of NJ tubes in order avoid variation in the practice.

Figure 1 Endoscopic image showing a jejunal tube.

Until then we advise clinicians to follow local guidelines and to use a multi-disciplinary approach in decision making.

REFERENCES

- 1 **Pearce CB**, Duncan HD. Enteral feeding. Nasogastric, nasojejunal, percutaneous endoscopic gastrostomy, or jejunostomy: its indications and limitations. *Postgrad Med J* 2002; **78**: 198-204 [PMID: 11930022 DOI: 10.1136/pmj.78.918.198]
- 2 **Mann NS**, Nair PK, Mann SK, Lehman BH, Harder GL, Knox AL, Howland CC, Reddy AB. Nasoenteral feeding tube insertion via fiberoptic endoscope for enteral hyperalimentation. *J Am Coll Nutr* 1984; **3**: 333-339 [PMID: 6438209 DOI: 10.1080/07315724.1984.10720057]
- 3 **Byrne KR**, Fang JC. Endoscopic placement of enteral feeding catheters. *Curr Opin Gastroenterol* 2006; **22**: 546-550 [PMID: 16891888 DOI: 10.1097/01.mog.0000239871.12081.7f]
- 4 **Jha AK**, Larizgoitia I, Audera-Lopez C, Prasopa-Plaizier N, Waters H, Bates DW. The global burden of unsafe medical care: analytic modelling of observational studies. *BMJ Qual Saf* 2013; **22**: 809-815 [PMID: 24048616 DOI: 10.1136/bmjqs-2012-001748]
- 5 **O'Keefe SJ**, Foody W, Gill S. Transnasal endoscopic placement of feeding tubes in the intensive care unit. *JPEN J Parenter Enteral Nutr* 2003; **27**: 349-354 [PMID: 129771735 DOI: 10.1177/0148607103027005349]
- 6 **Rafferty GP**, Tham TC. Endoscopic placement of enteral feeding tubes. *World J Gastrointest Endosc* 2010; **2**: 155-164 [PMID: 21160743 DOI: 10.4253/wjge.v2.i5.155]
- 7 **DiSario JA**. Endoscopic approaches to enteral nutritional support. *Best Pract Res Clin Gastroenterol* 2006; **20**: 605-630 [PMID: 16782532 DOI: 10.1015/J.BPG.2006.02.002]

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