

## Short Commentary

# Confirmation of Safe Nasogastric Tube Placement: The Radiology Department's Duties Closed Cycle Audit

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## Introduction

- The NPSA issued a patient safety alert (NPSA/2011/PSA002) and new guidelines regarding the confirmation of safe nasogastric feeding tube placement. Between September 2005 and March 2010. There were 21 deaths and 79 cases of harm attributed to the incorrect placement of nasogastric tubes in the UK. In the NPSA report chest radiograph misinterpretation was attributed to 12 of the 21 deaths and 45 of 100 incidents.
- Feeding through misplaced nasogastric tube (NGT) is a 'Never Event'.
- Associated complications: pneumonia, empyema, pneumothorax, vascular injury.

**Aim:** To evaluate the radiology department's adherence to the national Patient Safety Agency NPSA guidelines published in 2011. We aim at 100% compliance.

## Standards:

1. X-ray exposure adjusted to visualise NGT at bottom of the image (NPSA standard).
2. X-ray showed be clearly seen centred and lower than normally appropriate to show abdomen as far as possible below diaphragm (NPSA standard).
3. X-ray must show bottom of both hemidiaphragms in midline (NPSA standard).
4. The radiology report should document whether it is safe to proceed with the administration of any liquids via the tube.

5. The report should include a comment on the position of the nasogastric tube and tip.

## Methods

A retrospective study was conducted at the radiology department - Nottingham university hospital. NGTX-rays over a period of 7 weeks were collected through Picture archiving and communication systems PACS. All the films were reviewed in terms of imaging adequacy, tube placement, and safety reporting. Comparison for each case was carried out against the gold standards.

## Results

We achieved 100% in terms of the adequacy of imaging compared to 91% in the first audit. As for the placement of the NGT, our intervention reflected an increase of 9% in the correct placement of the NGT (centred and lower) compared to the previous 88%. Moreover, 98% of the images, compared to 82% previously, were showing the bottom of the two hemi-diaphragms in the midline. Regarding safe reporting, there was a significant improvement in mentioning the safety to feed (22% to 80%). In terms of commenting on both the NGT position and its tip, the percentage has increased significantly (60%- 91%).

## Conclusion

NGT insertion may appear to be a simple procedure; however, misplacement of the tube can lead to life-threatening emergencies or death. Following our first audit, A presentation was conducted in the trust's quality improvement monthly meeting, at the radiology department, to present the result in comparison with NPSA standards. As safe reporting results were a bit below average, we printed out flyers as reminders of safe re-

porting and left it at the reporting office. Our intervention, in the first audit, including the presentation and closing the audit cycle enhanced our quality in practice to almost reaching the national target. Different approaches may be required to reach 100% compliance.

### References

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