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Nasogastric and orogastric feeding tube acknowledged risk assessment: a nurse led safety improvement project

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Abstract text

Background: Nasogastric (NG) and orogastric (OG) tubes are commonly secured with tape to the nose or cheek. These tubes can migrate internally and/or externally, creating risks associated with misplacement (Powers et al., 2026). NHS Improvement (2016) guidance requires position confirmation by pH testing or chest X ray (CXR) prior to each use.

The Trust's NG feeding tube policy was ratified in 2018; however, the Intensive Care Unit (ICU) was initially excluded due to an existing local guideline. ICU was incorporated into the policy and audit programme in 2019. Monthly audits identified inconsistent tube position confirmation and reliance on CXRs. To address these risks, the Acknowledged Risk Assessment (ARA) tool was developed to support safe decision making and improve documentation. This work aligns with national patient safety priorities and contributes to wider efforts to reduce harm associated with feeding tube misplacement.

Aims: To assess the safety, accuracy, and functionality of the NG/OG ARA tool; evaluate compliance with initiation and daily ARA reviews; and identify areas requiring improvement to ensure safe NG/OG tube management.

Methods: A bespoke Excel audit tool was developed for ICU, extracting data from NG/OG ARA forms, CXR reports, and ICU documentation. Daily ARA forms were reviewed for each tube for up to 14 days. Data were collected retrospectively over 18 months. All ARA assessments were completed by ICU nurses, with data entry by ICU audit nurses and Nutrition Nurses. Analysis was led by the Nurse Consultant. Iterative quality improvement cycles enabled rapid translation of findings into targeted training and reinforcement of safe practices. Clinical incidents and near misses were monitored throughout.

Results:

Table 1. NG/OG ARA initiation and daily review compliance

	Sept 2023 – Mar 2024	Apr 2024 – Sept 2025	Sept 2024 – Mar 2025
Initiation			
Total patients	**57**	**40**	**37**
Was the initiation assessment completed in full?	59.7%	90.0%	97.3%
Was a chest X ray carried out within 24hrs prior to starting ARA?	87.7%	95.0%	94.6%
Was the initiation of ARA signed off by 2 nurses?	87.7%	97.5%	97.3%
Ongoing care			
Total Days	**310**	**190**	**189**
Was the ARA completed daily and in full?	67.0%	91.5%	92.6%
Was the ARA signed off by 2 nurses?	92.3%	98.9%	97.4%

Across three 6 month cycles, 689 NG/OG ARA days were audited. Compliance improved consistently: initiation reviews increased from 59.7% to 97.3%, and daily reviews rose from 67.0% to 92.6%. No incidents or near misses were reported. Nurse delivered training and educational posters supported improvement. When progress plateaued, an anonymous nurse survey informed further refinement of training and documentation practice.

Conclusion: Compliance with the NG/OG ARA improved significantly across the audit period, demonstrating patient safety gains, strengthened documentation, and greater consistency in NG/OG tube management. This nurse led project highlights innovation in risk based decision making and strong multidisciplinary collaboration. The approach provides a scalable model that could support national improvement in NG/OG tube safety.

References

- NHS Improvement. *Resource set: Initial placement checks for nasogastric and orogastric tubes.* London: NHS Improvement; 2016.
- Powers J, Bourgault AM, Richardson J, McDaniel BT, Stelnicki M. Evaluation of feeding tube migration in critical care patients. *Am J Crit Care.* 2026;35(3):225 32.