

Review of Nasogastric Tube and Nasogastric Tube Retention Device (Nasal Bridle) Insertions by a Healthcare Professional in an Acute Hospital over a 2-year period

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Introduction

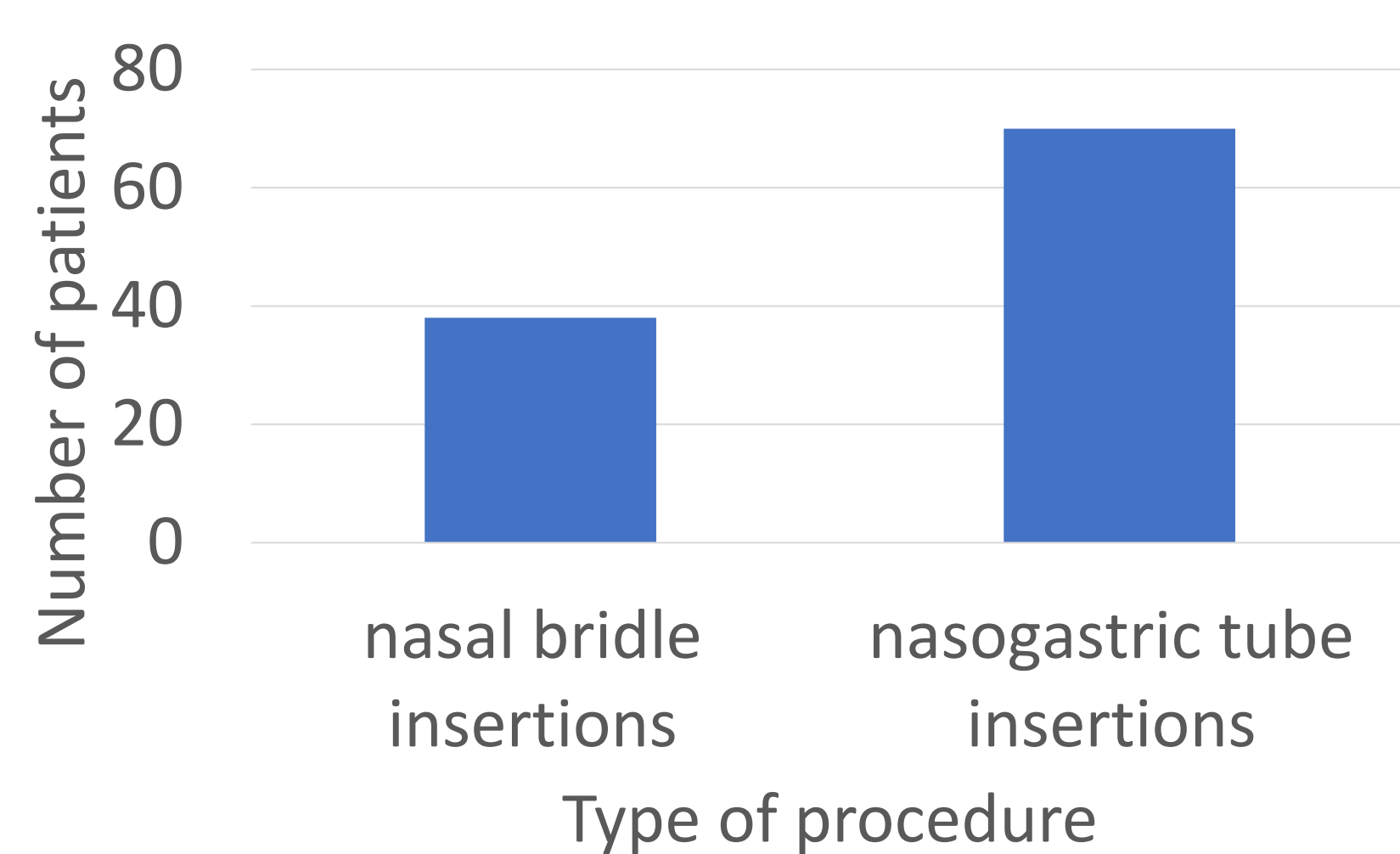
An important part of any practice is to audit and review it. Nasogastric tubes (NGTs), and the nasal retention devices (also known as nasal bridles) to keep the NGTs in place, are essential to the care of many patients. The NICE guidelines (1) recommend that NGTs are placed by a trained person and confirmation of NG tube placement via pH testing as a first line method with chest x-ray confirmation a second line. There is no NICE guideline on the use of nasal retention devices. The aim of this audit was to examine their use by a single healthcare professional over a 2-year period in an acute hospital in order to gain insight into placement of both of the aforementioned items.

Methods

Data was collected from the first of January 2022 to the first of January 2024 on all patients in which one healthcare professional, a registered dietitian, inserted a NGT or retention device. Prospective data was collected regarding date of insertion, whether a pH aspirate was obtained (for NGTs), and whether a chest X-RAY was required (for NGTs). Data was only collected on patients where this dietitian was the primary placer, and not where they shadowed or assisted a colleague. Further retrospective data was collected afterwards from IPMS and Nimis (hospital healthcare software programs) regarding retention devices and NGTs. Data was also obtained from radiology regarding number of chest XRAYs done to confirm NGT placement, per patient, in the hospital.

Results

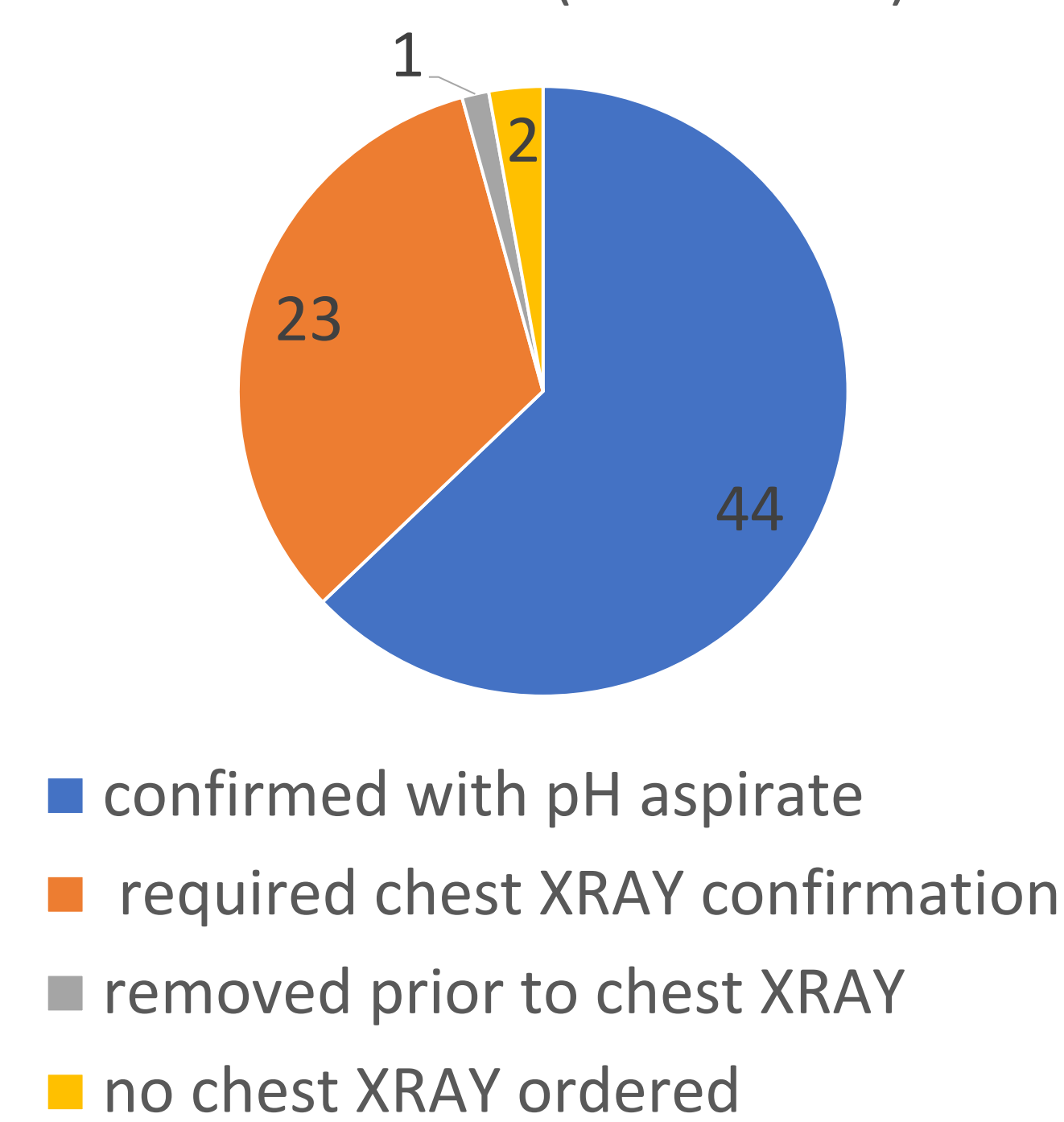
Insertions 2022 & 2023



In total, 108 insertions were carried out by the dietitian over 2022 and 2023. This averaged at 54 per year. More nasogastric tubes (70) were placed compared to nasal retention devices (38) in the two years.

Date and reason for removal of NGTs & nasal retention device was difficult to obtain for many of the patients and so was not included as a measurable outcome.

method of nasogastric tube insertion confirmation (total n = 70)



The majority of tubes were confirmed in place using pH aspirate. Of the NGTs placed, 44 of the 70 NGTs (62.8%) had their placement successfully confirmed with pH aspirate and without need for chest XRAY.

Of the 26 that required a chest XRAY, 14 were confirmed in place with XRAY.

1 patient removed their tube pre chest XRAY.
2 had no chest XRAY for the date of placement of the tube.
5 had no comment regarding the NGT on their XRAY.
1 had a vague comment.
3 required further advancement down the stomach as they were too proximal.
1 patient’s tube (1.6%) was reported to be in the lung.

Radiology were able to provide data on the total number of chest XRAYs done to confirm NGT placement, per patient, in the hospital in 2022 and 2023. It was 2.6 in 2022 and 2.1 in 2023. NGTs were placed in more patients in 2023 but the number of chest XRAYs done was reduced.

Chest XRAYs specifically done for NG tube placement		
Year	2022	2023
total per year	386	362
patients	150	175
no. XRAYs per patient	2.6	2.1
Cost per patient	approx. €205 plus operating costs	approx. €166 plus operating costs

Conclusion and Next Steps

This review showed that over 60% of NGTs were confirmed in place without the need for a chest XRAY. 6 of the 23 chest XRAY reports done (26%) had no comment made regarding the NGT placement, while 2 patients did not have a chest XRAY on record for the day the NGT was placed. This highlights some of the pitfalls regarding using chest XRAY to confirm NGT position even after the position could not be confirmed with pH aspirate. As a result of this review, the department of radiology was contacted to inform them of the findings regarding the chest XRAY reports. As well as this, continued training has been carried out by nursing practice development in which pH aspirate is advocated to be used for first line confirmation of NGT position. More NGTs were placed compared to nasal bridles. Perhaps retention devices could be utilised more, as it was found that many patients required multiple chest XRAYs due to tube displacement. Additional data could be collected regarding length of stay of nasogastric tube and retention devices but these were not measured due times constraints and difficulty in obtaining accurate data regarding dates/times of removal. Following this review, further information was collected on nasal retention devices placed in the hospital.

References

1. NICE. Nutrition support for adults: oral nutrition support, enteral tube feeding and parenteral nutrition. NICE (National Institute for Health and Excellent Care). [Online] August 04, 2017. [Cited: May 23, 2026.] <https://www.nice.org.uk/guidance/cg32/chapter/Recommendations#enteral-tube-feeding-in-hospital-and-the-community>.

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