**Confirmation of safe nasogastric tube placement – the radiology department's duties**

**Descriptor**

Introduction of fluids or medication into the respiratory tract or pleura via misplaced naso or oro-gastric tube is a wholly preventable Never Event. The radiology department's adherence to the radiological specific requirements of the National Patient Safety Agency alerts regarding safe nasogastric feeding tube placement is compulsory.

**Background**

The NPSA issued several patient safety alerts to date, since 2005 (NPSA/2011/PSA002), with the most recent one in 2016, and new guidelines regarding the confirmation of safe nasogastric feeding tube placement. Despite the alerts, there were there were 21 deaths (with chest radiograph misinterpretation was attributed to 12 of the 21 deaths) and 79 cases of harm attributed to the incorrect placement of nasogastric tubes in the UK between September 2005 and March 2010 and, between September 2011 and March 2016 , further 95 cases of harm attributed to the incorrect placement of nasogastric tubes in the UK . Several key radiology requirements were identified:

* Imaging should be justified - "X-Ray is used only as a second line test" (following initial pH testing of aspirate)
* The radiographer should ensure the nasogastric tube can be clearly seen with the CXR centred lower than usual to "show the bottom of both hemi-diaphragms in the midline"
* The radiology report should "document not only the position of the nasogastric tube and tip, but whether it is safe to proceed with the administration of any liquids via the tube"

The NPSA have highlighted a need for the safe confirmation of NGT placement to be audited regularly

**The Cycle**

**The standard:**

• The request should be justified

• The radiograph should be appropriately exposed and centred

• The report should document tube and tip position and make appropriate comment on use for feeding e.g. ‘in a suitable position at the time the radiograph was taken’ or that it is unsafe and should be adjusted/removed. \*See letter from RCR\*

**Target:**

100% compliance with the above standards.

**Assess local practice**

**Indicators:**

The degree of compliance with the three standards.

**Data items to be collected:**

Retrospective radiology information system search for the terms NG tube, nasogastric tube and NGT in radiology reports/requests. The referral, image and report for each identified case should then be scrutinised.

Elements to be assessed:

* Request justified (i.e.. pH testing non-contributory)
* Adequacy of image
* Contents of report

**Suggested number:**

One to three months

30-50 patients

**Suggestions for change if target not met**

1. Present audit at departmental audit meeting, ensuring both radiographers and radiologists attend. This will increase the awareness of the guidelines. A pictorial presentation of adequate and inadequate nasogastric tube radiographs is educational and stimulates discussion and debate

2. Present reporting results. Agree standardised safety phrases for insertion into the reports to ensure continuity within the department

3. Ask the radiology information systems team to create shortcut codes to allow the safety phrases to be inserted into the reports. Also display the safety phrases in the reporting areas

4. Re-audit after a month or two of intervention

**Resources**

1. Approximately 1 hour of PACS/RIS manager's time

2. 4-6 hours of radiologist's time, less if workload shared

3. Consensus on standardised reporting safety phrases which are then printed and displayed in all reporting areas/offices - Dictation short cut codes can also be created

**References**

1. NHS England Patient Safety Alert: Nasogastric tube misplacement: continuing risk of death and severe harm, <https://www.england.nhs.uk/publication/patient-safety-alert-nasogastric-tube-misplacement-continuing-risk-of-death-and-severe-harm/>

**Editor’s comments**

Author's comments: There is some debate on these phrases, in our department there is reluctance for the radiologist to deem whether a tube is ‘safe’. Our suggested ‘safe’ phrase is ‘If the nasogastric tube is intended for the administration of liquids then at the time this radiograph was acquired the tube was in a suitable position’.

Editor's comments: The NPSA guidance states that "X-Rays must only be interpreted and nasogastric tube position confirmed by someone assessed as competent to do so." Often this assessment will be done by clinical staff as tubes are often placed out of hours and at other times when a formal radiological opinion may not be readily available. This audit could be extended using the clinical notes to ensure that this essential step of checking tube position at time of placement is carried out and documented by an appropriately trained individual. See template entitled 'X-ray confirmation of nasogastric tube placement: documentation in patient notes'.

**Submitted by**

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