

# Patient Safety Alert

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## Nasogastric tube misplacement: continuing risk of death and severe harm

**To:** All NHS Wales Chief Executives, Medical Directors, Directors of Nursing, and Patient Safety Teams.

As a result of recent incidents and a Coroners Regulation 28 report it has become evident that further clarity is required on the initial placement of nasogastric and orogastric tubes. Therefore, a resource set\* is being shared to provide clarity on the steps provided.

The resource set provides a range of support for health boards and trusts to assess whether previous nasogastric tube guidance has been implemented and embedded within their organisations

[improvement.nhs.uk/resources/resource-set-initial-placement-checks-nasogastricandorogastric-tubes](http://improvement.nhs.uk/resources/resource-set-initial-placement-checks-nasogastricandorogastric-tubes).

It includes briefings to help understand the issues, summaries of safety-critical requirements of past alerts, self-assessment/assurance checklists, and learning from reported incidents.

Use of misplaced nasogastric and orogastric tubes<sup>1</sup> was first recognised as a patient safety issue by the National Patient Safety Agency (NPSA) in 2005<sup>2</sup> and three further alerts were issued between 2011 and 2013.<sup>3 4 5</sup> Introducing fluids or medication into the respiratory tract or pleura via a misplaced nasogastric or orogastric tube is a Never Event

Never Events are considered 'wholly preventable where guidance or safety recommendations that provide strong systemic protective barriers are available at a national level, and should have been implemented by all healthcare providers.'<sup>6</sup>

Between September 2011 and March 2016, 95 incidents were reported to the National Reporting and Learning System (NRLS) and/or the serious incident reporting system where fluids or medication were introduced into the respiratory tract or pleura via a misplaced nasogastric or orogastric tube.

### Actions

**When:** To commence as soon as possible and be completed by 30 November 2017.

**Who:** All organisations where Nasogastric or orogastric tubes are used for patients receiving NHS funded care.

1. Identify a named Executive Director who will take responsibility for the delivery of the actions required in this alert:-
2. Provide local policies and protocols that reflect all the safety critical requirements summarised in the resource set.
3. Ensure the supply and use of safe equipment. Nasogastric tubes used for feeding should be radio-opaque throughout their length and have externally visible length markings. pH paper should be CE marked for use on human aspirate.
4. Ensure the provision and uptake of competency-based training which needs to reflect all the safety-critical requirements summarised in this resource pack. Training in the X-ray interpretation and pH testing should be provided for staff who will undertake these procedures, regardless of the level of seniority,

[www.patientsafety.wales.nhs.uk](http://www.patientsafety.wales.nhs.uk)

Queries should be sent to: [ImprovingPatientSafety@Wales.GSI.Gov.UK](mailto:ImprovingPatientSafety@Wales.GSI.Gov.UK)

While this should be considered in the context of over 3 million nasogastric or orogastric tubes being used in the NHS in that period,<sup>7</sup> these incidents show that risks to patient safety persist.

**Checking tube placement before use via pH testing of aspirate and, when necessary, x-ray imaging, is essential in preventing harm.**

Examination of these incident reports shows that misinterpretation of x-rays by medical staff who did not appear to have received the competency-based training required by the 2011 NPSA alert is the most common error type. Other error types involve nursing staff and pH tests, unapproved tube placement checking methods, and communication failures resulting in tubes not being checked. The reports included 32 incidents where the patient subsequently died, although given many patients were critically ill before the tube was introduced, it is not always clear whether the death was directly related to the misplaced tube.

Review of local investigations into these incidents suggests problems with organisational processes for implementing previous alerts. This Patient Safety Alert is therefore directed corporately **at health boards and NHS Trusts** and the processes that support clinical governance, and NOT directly at frontline staff. Some of the implementation issues identified were:

- Problems with systems to ensure staff who were checking tube placement had received competency-based training
- Problems with ensuring bedside documentation formats include all safety critical checks
- Problems maintaining safe supplies of equipment, particularly radio-opaque tubes and CE-marked pH test strips.

## pH Strips

Despite the level of training staff may have had, if the strips do not provide the level of granularity required to distinguish between different pH levels, then staff could easily be misled into thinking the NG tube was appropriately placed.

The Surgical Material Testing Laboratory (SMTL) has tested the accuracy of different samples of pH indicator strips and have recommended that organisations should avoid buying pH strips not recommended by Shared Services Partnership – Procurement Services – NHS Wales.

5. Ensure that clinical documentation reflects all the safety-critical requirements summarised in this resource set. This should also include an assessment of whether naso/orogastric feeding is the most appropriate plan for the patient.

6. Implement an ongoing audit of compliance to assess the sustainable implementation of the safety critical measures in this resource set.

7. Share the findings of audits with the organisation's Quality and Safety Committee and ensure action plans agreed and implemented.

**Share any learning from local investigations or locally developed good practice resources by emailing:**

[ImprovingPatientSafety@Wales.gsi](mailto:ImprovingPatientSafety@Wales.gsi).

## References

1. Hanna G, Phillips, L, Priest O & Zhifang N (201) [Improving the safety of nasogastric feeding tube insertion A report for the NHS Patient Safety Research Portfolio](#) July 2010
2. National Patient Safety Agency - [Reducing the harm caused by misplaced nasogastric feeding tubes](#) 2005
3. National Patient Safety Agency Patient Safety Alert: [Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants](#) 2011
4. National Patient Safety Agency Rapid Response Report: [Harm from flushing of nasogastric tubes before confirmation of placement](#) 2012
5. NHS Wales Patient Safety Notice: PSN 003 - [Placement devices for nasogastric tube insertion DO NOT replace initial position](#) checks 2014
6. [NHS England Never Events Policy and Framework](#) 2015
7. Page 9 of the supporting [initial placement checks for nasogastric and orogastric tubes resource set](#) on the NHS Improvement website

## Stakeholder engagement

- Medical Specialities Patient Safety Expert Group
- Children and Young People's Patient Safety Expert Group
- Surgical Services Patient Safety Expert Group
- Patient Safety Steering Group

For details of the membership of the NHS Improvement patient safety expert groups and steering group see

\*A similar Patient Safety Alert was originally developed and issued in England by [NHS Improvement](#) and has been replicated for Wales with kind permission from the NHS Improvement patient safety team under the [Open Government Licence v3.0](#).