For Root Cause Analysis INVESTIGATION REPORT	
Incident Number:	284123
Date of Incident:	22/10/2022
Speciality:	Neurology
Location (exact):	Ward XXX
Datix Classification / Category:	Treatment, procedure
STEIS Number:	2202/23091
STEIS Severity Level:	
Incident category: (Taken from STEIS / Datix)	Surgical invasive procedure incident meeting SI criteria

Divisional management lead: (AD/ACN)	Specialised - Associate Director
Author(s) and investigating officer:	Consultant cardiac anaesthetist
Author(s) and investigating officer Job title(s):	Heart Centre Matron
Divisional Governance and Quality Manager:	**********
Date report completed:	30/03/2023
Date due at Divisional Governance:	12/04/2023
Date due at Risk Management Panel:	14/07/2023
Deadline with the CCG (SI/NE only):	Click here to enter a date.
Date report approved at Divisional Governance:	05/07/2023
Date report approved at Risk Management Panel:	08/09/2023

Document Control		
Version Number	Name of Person Updating	Date of Version
1	**********	01/12/2022
2	**********	31 January 2023
3	**********	08 March 2023
4	**********	30 March 2023

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1. Executive Summary

Description of the incident:
A XX year old male who was admitted to UHNM 1X/0x/2022 withXXX, XXXandXXX. ** was cared for within the Acute Medical Unit from the XXth – XXth August 2022. Care was taken over by the neurology team due a diagnosis XXXs and was transferred to the acute neurology ward on XX/XX/2022 with a low GCS and working diagnosis of XXX. Due to poor nutritional intake, a Nasogastric tube was inserted to support FG nutritional intake. During their hospitalisation he required the replacement of his NG tube and had 15 LocSIPPs completed. On XXXX0/2022, NG Tube was replaced. LocSIPP confirms the length of fixation as 64cm and initial pH2.0. A CXR was undertaken on the XX/XX/2022 @ 10:58hrs and was formally reported on the XX/XX/2022 @ 11:43hrs. Received a Consultant review on the XX/XX/2022 @ 13:58hrs that identifies that the CXR was reviewed and was indicative of infection. On the XX/XX/2022 at 17:00 Staff Nurse was unable to aspirate and patient was found to be in distress. A CXR was requested to check placement of the NG tube. This was completed on the XX/XX/2022 03:29hrs. This demonstrated that the NG tube in the midline with the tip projected over the oesophagus, not below the carina, therefore not safe for feeding. A Complete white out of the left hemithorax confirmed to be due to pleural effusion + lung collapse on subsequent imaging. The LocSIPP confirmed that the NG tube position had migrated to 46cm on the XX/XX/22 @ 12:00hrs (6 day earlier). This demonstrated a reduction of 18 cm and this was not identified or acted upon. NG feeding had continued throughout this time. Patient remained on the acute neurology ward and made a recovery from the XXX&XXX. Continued to be cared for their on-going medical condition ofXXX. Sadly, patient passed away on XX/XX/2023.

Incident date:	XX/XX/2022
Datix Classification / Category:	Implementation of care.
Speciality:	Neurology
Other specialities involved:	Choose an item.
Result:	SI
Actual Impact / Harm to patient as a result of this incident:	Patient developed XXXand increased length of stay.

Contributory factors:
• Documentation of LocSIPP. • Structured Clinical Review process. • Consideration of preventative measures to reduce risk of migration.

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Root causes:
• Failure to identify migration of NG tube on the XX/XX/2022 @ 12:00hrs. • Failure to discontinue feed after XX/XX/2022. • Failure to Identify migration of NG tube on CXR during the Ward Round XX/XX/2022 @ 13:58
Lessons Learned:
1. Adhering to trust guidelines for LocSIPP document for NG tube insertion 2. For long term patients requiring NG tube/ feeding to plan for better securing of NG tube or alternative measures. NJ tube/ PEG/ Bridle 3. After identification of migration of NG tube, NG feed needs to be stopped immediately
Recommendations:
1. Recording in the correct LocSIPP NG tube insertion document 2. Any patient at risk of pulling NG tube – to use a bridle to secure NG tube 3. If the NG tube has migrated or suspicion of; a CXRAY has to be requested 4. CXR should be reviewed by 2 doctors and signed on the LocSIPP form 5. Failure to identify placement discrepancy on the LocSIPP. LocSIPP does not have a red flag noted for action/escalation, should the measurement changed
Arrangements for sharing:
Patient safety Governance

1. The Investigating Team

	Person 1	Person 2	Person 3	Person 4
Full Name:	**********			
Job Title:	**********			
Qualifications:	MSc PGc Dip HE			
Experience:	26 years Registration			
Investigation team role:				
Division or reference to independence of the service:				
Involvement of other organisations:				
Stakeholders / audience:				

2. Investigation Report

2.1 Incident background, description, consequences and context

A XX year old male who was admitted to UHNM XX/XX/2022 withXXX, XXXandXXX. He was cared for within the Acute Medical Unit from the XXth – XXth August 2022. Care was then taken over by the neurology team due a diagnosis XXXand was transferred to the acute neurology ward on XX/XX/2022 with a low GCS and working diagnosis ofXXX.

Due to poor nutritional intake, a Nasogastric tube was inserted to support nutritional intake on the XX/XX/2022. During their hospitalisation he required the replacement of their NG tube and had 15 LocSIPPs completed.

Due to the patient self-removing their NG tube on the XX/XX/2022, this was replaced at 21:00hrs. On placement the LocSIPP confirms the marking at the nose as 64cm and an initial pH2.0. NG Feed was then commenced in line with dietetic advice.

On the XX/XX/22, the NG Orogastric Tube position checklist was completed @ 12:00hrs. This identified the marking at the nose as 46cm with a Ph of 2.0.

On the XX/XX/22, the NG Orogastric Tube position checklist was completed @ 18:00hrs. This identified the marking at the nose as 46cm with a pH 4.0. FG feeding regime was commenced after this check.

Nursing Staff document that that the NG feed continued overnight and that this completed on the XX/XX/2022 @ 08:30hrs. The NG Orogastric Tube position checklist was completed at 08:30 hrs and this identified the marking at the nose as 46cm with a pH 4.0.

On the XX/XX/2022, the Neurology Registrar documented that on chest osculation there was reduced air entry at bases. A CXR was requested and was undertaken at 10:52hrs.

On the XX/XX/2022 night shift, nursing staff have documented that the NG feeding @22:00hrs. There is no documentation to support that the NG Orogastric Tube position checklist was completed prior to commencing the feeding regime.

On the XX/XX/2022, he was reviewed by a Consultant as part of the ward round. This identified that his CXR was suggestive of XXX and antibiotic therapy commenced. There is no documentary evidence that the medical review considered the placement of the NG tube.

A medical discussion was undertaken with XXX on the XX/XX/2022. This identifies that that he was being treated for XXX and that an antibiotic regime had been commenced.

On the XX/XX/2022, 2 entries are made (no time) against the NG Orogastric Tube position checklist. These identified the marking at the nose as 46cm with a pH 4.5 on both occasions. NG Feed was commenced at 22:20hrs.

On the XX/XX/22, there is no documentation to support that the NG Orogastric Tube position checklist was completed. There is no documentation within the nursing notes surrounding the assessment of the NG tube placement.

No Medical review was undertaken on the XX/Xx/2022 (weekend).

On the XX/XX/2022, the NG feed is documented to have recommenced at 23:30 within the nursing notes.

On the XX/XX/22, the NG Orogastric Tube position checklist was completed @ 10:00hrs. This identified the marking at the nose as 46cm with a pH 4.0.

On the XX/XX/2022, it is documented at 10:30am that the NG is in situ and secure to nose and feed is running as prescribed.

On the XX/XX/22, the NG Orogastric Tube position checklist was completed @ 12:00hrs. This identified the marking at the nose as 46cm with a pH 3.5.

On the XX/XX/22, the NG Orogastric Tube position checklist was completed @ 22:15hrs. This identified the marking at the nose as 46cm but with Nil Aspirate. He was repositioned and Nil aspirate remained.

A CXR was requested and this was completed on the XX/XX/2022 @ 03:29hrs. This demonstrated that the NG tube was in the midline with the tip projected over the oesophagus, not below the carina, therefore not safe for feeding. A complete white out of the XXX confirmed to be due to XXX+ XXX on subsequent imaging.

A medical review was undertaken on the XX/XX/2022 @ 07:14 of which identified:

"Observations unremarkable
No CV compromise
On XL O2
No increased WOB
Reduced breath sounds and resonance on XXX
Confused
On AXXX
CRP >XXX 3 days ago"

PLAN
- Monitor
- NGT removed
- N/S will kindly complete DATIX

D/W Med SpR who will also kindly review.
Advised
- Not acute intervention for now unless deterioration
- Day team to consider pleural drain"

A registrar clinical review was undertaken @ 07:38. This clinical assessment identified:

Was on feeding

CXR XX/XX/2022- complete XXX XXX XXX XXX XXX, NG is placed in the middle of the chest
CXR XX/XX/2022- NG is placed in very high on the chest, some new consolidation patch in left base

OE
A-Snoring whiel sleeping

B-RRXX/min, satsXX7% on XL/min, breath sounds heard in left side too, but dull to percussion, wheezing+, not appeared in respiratory distress
C-HR XX, BP-XXX/XX, no XXX XXX
D-E3/V5/V2-XX/15

Impression- XXX XXX XXXwith large XXX XXX- likley XXX from misplaced NG

Plan
-Even though CXR shows XXX XXX- he is not in XXX XXX now- therefore urgent XXX interventions not required, specially as patient is on XXX
Please hold XXX for 48 hours and refer to XXX l clinic for XXX XXX
But if patient deteriorated will need urgent XXX XXX potentially following reversal of XXX with XXX

- SN Sam agreed to Datix the incident
-NG is re-inserted
-Continue same XXX
-Regular XXX

Nursing staff removed the NG tube.

A Consultant Neurology review was undertaken @ 10:59.

This agreed with the medical plan as outlined above.

On the XX/XX/2022, clinically reviewed by the Neurology Registrar. XXX XXX were updated as to the cause of the injury.

On the XX/XX/2022, clinically reviewed by the Neurology Registrar. A specialist respiratory review was undertaken. XXX XXX XXX was attempted and XXXml of XXX XXX XXX drained. A referral was made for opinion by the critical care team.

Critical Care reviewed patient on the XX/XX/2022 @ 17:54. Considered stable on the ward and did not require ITU support. A medical plan was in place and for further escalation to respiratory and critical care should clinically deteriorate.

Remained under the care of neurology and did not require further escalation of care. CXR imaging demonstrated improvement and resolution of the *XXX XXX XXXXXX XXX XXX* with the use of XXX XXX and XXX XXX.

Sadly, the patient's neurological condition did not improve and passed away whilst an inpatient at the UHNM.

The death certificate identifies the cause of death as:

1a XXX of unknown aetiology
1b Long-term hospitalisation with repeated XXX andXXX.
2 XXX XXX.

2.2 Actual Impact / Harm to patient as a result of this incident

Severe

The patient required additional medical interventions due to the misplacement of the NG tube

2.3 Purpose

To establish if the misplacement of the NG tube could have been identified earlier?

- Had 15 contacts with 3 Healthcare Professional groups in relation to their NG Tube between XX/XX/2002 and XX/XX/2022.
- Nursing Staff should have identified that the NG tube was misplaced due to the discrepancies of 64cn vs 46cm.
- The NG Orogastric Tube position checklist was not signed by 2 Staff Members as checked.
- Medical teams could have identified the misplaced NG tube on the CXR undertaken on the XX/XX/2022.

3. Information & Evidence Gathered

Such as; details of any interviews, statements gathered, information reviewed or medical documents.

- Iportal Notes
- Nursing Notes.
- PACS Xray viewer (reporting notes).
- Statements from the nursing team involved

4. Statutory Duty of Candour

Has Duty of Candour been triggered? (has the incident caused harm to the patient)	YES
If DoC has been triggered complete the table below. *If DoC has not been triggered, please move on to 4.2*	
Document a description of the discussion that has been held with the patient / relatives which should include: ➢ An explanation of the incident ➢ That is it being investigated to find the root causes ➢ Whether or not the patient/relatives wish to receive a letter ➢ An approximate timescale when the report will be completed and available to the patient/relatives if they wish to have a copy	
If no conversation has taken place, why is this (i.e. no NOK):	
Name of person who discussed the incident with the patient/relatives:	**********

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Date the discussion took place with the patient/relatives:	XXX XXX 2022
Details any questions which were raised by the patient/relatives:	NA
Date the Duty of Candour letter has been sent to the patient/relatives:	XX XXX 2022

If you establish that the patient/relatives have not been informed of the incident escalate immediately to the Divisional Governance & Quality Managers.

5. Detection of Incident

On the XX/XX/22 The NG Orogastric Tube position checklist was completed @ 22:15hrs. This identified the marking at the nose as 46cm but with Nil Aspirate. ****** was repositioned and Nil aspirate remained.

6. Trigger Factors, Root Causes & Incidental Findings

When the root cause(s) were identified, what led up to them?

What are the contributory factors?

- LocSIPP NG tube safety guideline not being adhered to:
  - Incomplete documentation on the checklist.
  - Failure to identify that the NG tube was 64cn on insertion vs 46cm on checklist.
  - Dual Staff signatures not evident on checklist.
  - Multiple LocSIPP in use.
- Incomplete Careplan records:
  - Incomplete documentation of aspirate.
  - Inconsistent use of the NG tube insertion label.
- Interpretation of CXR
  - Missed opportunity to identify migration of NG Tube.
- Multiple NG Tubes required
  - No consideration of the use bridal or mittens to reduce risk of self-removal or migration of NG Tube.
- Continuing to use NG tube when NG tube migrated - 5 days in total

What are the root causes?

- Failure to identify 18 cm discrepancy of NG tube positioning

What are the lessons Learned?

1. Adherence to trust guidelines for LocSIPP for NG tube insertion and subsequent checking by nursing staff.
2. For long term patients requiring NG tube/ feeding securing of NG tube or alternative measures to be considered.
3. Clinical Reviews for those with NG in place should note findings during clinical documentation as part of the ward round.
4. All healthcare professionals should consider and review the placement of the NG during clinical interactions.

What are the recommendations?

1. Safety Alert to be shared across the UHNM to reduce the risk of further incidents
2. A quality audit of the completion of The NG Orogastric Tube position checklist within clinical areas.
3. An audit of the documentation on the NG placement during ward rounds where CXR have been undertaken.
4. Registered Nurses to use a risk based approach when considering securing methods for NG Tubes.

7. Conclusion & Findings

A summary

Admitted to the UHNM with anXXX XXX XXX. This required an acute hospital stay within the Acute Neurology ward. Due to the poor nutritional status, an NG tube was placed on the XX/XX/2022.

On the XX/XX/2022, required a new NG to be inserted due to the self-removal of their previous NG tube. This was documented as being 64cm at the nose. On the XX/XX/2022 the NG tube length was documented to be at 46cm but was not acted upon in line with the decision making tree within the LocSIPP.

On the XX/XX/2022 a clinical review was undertaken by a Registrar and a CXR was ordered due to demonstratingXXX XXX XXX XXX XXX XXX. This CXR was reviewed by the ward round on the XX/XX/2022. This identified an infective picture, but no documentation was noted surrounding the NG tube.

The NG tube continued to be utilised until the XX/XX/2022 when no aspirate was noted. A CXR was completed and this demonstrated a XXX XXX XXX XXX XXX XXX

The NGTube was removed and medical management of the XXX XXX XXX and XXX XXX XXX proved successful.

Sadly died on XX/XX/2022.

The death certificate identifies the cause of death as:

1a XXof XXX XXX
1b Long-term hospitalisation with repeated XXX andXXX.
2 XXX XXX.

8. Action Plan

Datix Incident Number:	284123
STEIS Reference Number (if applicable):	2022/23091
Patient Unit/NHS Number:	**********

Author:	**********	Date Action Plan Developed:	XX XX 2023
Accountable Officer:			

Reference number	Area of concern / recommendation made	Key actions	Person(s) responsible	Date action completion to be achieved	Evidence of actions i.e. minutes of meeting	Date action completed
1. *MANDATORY ACTION*	Sharing: Share the outcome of the investigation with all staff directly involved in the incident and staff from the area where the incident occurred and learning from the identified lessons.	Share the report and lessons learned with those staff involved in the incident at Governance Meeting.		2022	Minutes of meetings: Directorate Governance Date: Click here to enter a date. Divisional Governance Date: Click here to enter a date. RMP date: 14 July 2023	XX XX XX
2. *MANDATORY ACTION*	Duty of Candour: Check to see if Duty of Candour requirements apply and action if they do.	Record decision on Datix and in the patient case notes.		Duty of Candour triggered: (if YES please populate the appropriate date fields below)		YES
				XX XX 2022	10 day initial letter	XX
				Click here to enter a date.	Final outcome letter	Case reviewed by Divisional Clinical Governance Lead and M&M and agreed 'Non Therapeutic Disclosure'
				Click here to enter a date.	Recognised complication	Click here to enter a date.
				Click here to enter a date.	Patient and or Family do not wish to receive further correspondence	Click here to enter a date.

Reference number	Area of concern / recommendation made	Key actions	Person(s) responsible	Date action completion to be achieved	Evidence of actions i.e. minutes of meeting	Date action completed
3. *MANDATORY ACTION*	Risk Register: Consider if the theme / incident / issue needs to be added to the Risk Register.	Consider that the incident issue should be added to the Risk.		Risk to added to the risk register (select YES or NO and if YES please populate the Risk ID Number below)		NO
				Risk ID Number:		
				Click here to enter a date.	Added to the risk register for review and escalation	Click here to enter a date.
4.	A safety alert to be developed and shared across the UHNM	Development of Safety Alert	**********	XX/2023	Disseminated Trust Wide UHNM 2023/004 Alert Title: Identifying displaced nasogastric/orogastric tubes.	30 March 2023
5.	Audit of the completion of The NG Orogastric Tube position checklist	Review of compliance	**********	XX2023	********** to review the case and feedback to AC	Most recent audit reported lack of compliance. To be re-audited inXX XX. Delay of re-audit was whilst LocSIPP review was undertaken as per action 6 &7.
6.	An audit of the documentation on the NG placement during ward rounds	Review of compliance	**********	XX2023	********** to review the case and feedback to AC	Audit planned forXX XX, based on the completion of the revised LocSIPP
7.	To discuss potential alterations to LocSIPP at Non-Oral Feeding Group		**********	Last 3 meetings have been cancelled. No new date arranged .	********** to review the case and feedback to AC	Completed. Agreement to update NgT LocSIPP. Print in progress as at XX /2023.

Reference number	Area of concern / recommendation made	Key actions	Person(s) responsible	Date action completion to be achieved	Evidence of actions i.e. minutes of meeting	Date action completed
8	Removal of all previous version of NgT LocSIPP and replace with new version	To visit wards at both RSUH and County site to remove and replace	**********	XX/2023	All UHNM wards completed. Plan to visit County weekendingXX.2023	
9.	Communication of LocSIPP update Trust wide	Awareness to all Teams of updated LocSIPP with summary of changes to Sign out and Post procedural care section, additional column 'marking at nose on insertion ' at each new entry line	**********	XX/2023	Shared to Matron teams via each Division.	**Completed**

9. Chronology of Events

	Date	Time	Initial of person involved and role	Source of information	Description; what happened	Deviation from policy / Concerns raised	Notable Practice / Good Points
1	xx 2022			Iportal	Attended ED with XXX XXX and cared for on Acute Medical Unit		
2	XX 2022				NG tube replaced. Noted at 64 cm with pH2.0		
3	XX 2021				NG tube position checked and recorded at 46cm with a pH 2.0		
4	XX 2022				NG tube position checked and recorded at 46cm with a pH 4.0. Feeding regime commenced.		
5	XX 2022				Neurology Registrar documented that on XXX XXX there wasXXX XXX XXX XXX XXX . A CXR was requested.		
6	XX 2022	22:00			NG feeding.	No documentation to support the NGT position checklist was completed before commencing feed.	
7	XX 2022				Ward round completed. 2 entries made against the NGT position – Feeding continued	No documentary evidence that the medical review considered the placement of the NG Tube. No time recorded	

	Date	Time	Initial of person involved and role	Source of information	Description; what happened	Deviation from policy / Concerns raised	Notable Practice / Good Points
8	XX2022	23:30			No NGT position completed No medical review was undertaken Feed recommenced	No documentation to support these checks were undertaken	
9	XX2022	10:00			NG tube position checked and recorded at 46cm with a pH 4.0		
10	XX2022	10:30			Feed running as prescribed		
11	XX2022	12:00			NG tube position checked and recorded at 46cm with a pH 3.5		
12	XX2022	22:15			NG tube position checked and recorded at 46cm with nil Aspirate. Chest x-ray requested		
13	XX2022	03:29			Imaging demonstrated NGT was in the midline with the tip projected over the oesophagus not below the carina.	Positioning of NGT was not safe for feeding.	

NG Orogastric Tube position checklist dates

Date of Insertion	Time of Insertion	LOCSIP	Completed in Full	Date removed	Reason
XX/XX/2022	Not Known	Yes	Yes		
XX/XX/2022	Not Known	Yes	Yes	XX/XX/2022	Patient Pulled Out
XX/Xx/2022	01:50	Yes	No post procedural care documented on pathway	Not Known	Unknown
XX/XX/2022	? 17:45	Yes	No post procedural care documented on pathway	Not Known	Unknown
XX/Xx/2022	? 08:55	Yes	No post procedural care documented on pathway	Not Known	Unknown
XX/XX/2022	? 18:00	Yes	No post procedural care documented on pathway	Not Known	Found to be pulled out
XX/XX/2022	?23:45	Yes	No post procedural care documented on pathway	23/09/2022	Unknown
XX/XX/2022	Not Known	Yes	No post procedural care documented on pathway	Not Known	Unknown
XX/XX/2022	?22:00	Yes	No post procedural care documented on pathway	Not Known	Unknown
XX/Xx/2022	15:40	Yes	No post procedural care documented on pathway	Not Known	Unknown
XxXx0/2022	?21:00	Yes	No post procedural care documented on pathway	Not Known	Unknown
XxXX0/2022	07:20	Yes	Yes	XX/XX/2022	Curling in mouth
Xx/Xx/2022	18:00		No post procedural care documented on pathway	Not Known	Unknown
Xx/Xx/2022	11:10	Yes	Yes	Not Known	Unknown
Xx/Xx/2022	03:40	Yes	No post procedural care documented on pathway	XX/XX/2022	Length Change to 37cm