Nasogastric/Orogastric/Nasojejunal Tube Insertion(s) for Children/Young People
Standard Operating Procedure
UHL Paediatric Intensive Care Unit (PICU) (LocSSIPs)

Change Description	Reason for Change
☐ Change in format	☒ Trust requirement

APPROVERS	POSITION	NAME
Person Responsible for Procedure:	PICU and ECMO Consultant	Claire Westrope
SOP Owner:	Senior Sister	Lauren Maughan
Sub-group Lead:	PICU and ECMO Consultant PICU Consultant	Jeremy Tong Julia Vujcikova

Appendices in this document:

Appendix 1 : UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion
Appendix 2 : Patient Information Leaflet for *Procedure* Available at: Home (leicestershospitals.nhs.uk)

Introduction and Background:

National Safety Standards for Invasive Procedures (NatSSIPs) have been developed by a multidisciplinary group of clinical practitioners, professional leaders, human factors experts and lay representatives brought together by NHS England. They set out the key steps necessary to deliver safe care for patients undergoing invasive procedures and will allow organisations delivering NHS-funded care to standardise the processes that underpin patient safety.

Organisations should develop Local Safety Standards for Invasive Procedures (LocSSIPs) that include the key steps outlined in the NatSSIPs and to harmonise practice across the organisation such that there is a consistent approach to the care of patients undergoing invasive procedures in any location. Put simply, NatSSIPs should be used as a basis for the development of LocSSIPs by organisations providing NHS-funded care.

The development of LocSSIPs in itself cannot guarantee the safety of patients. Procedural teams must

undergo regular, multidisciplinary training that promotes teamwork and includes clinical human factors considerations. Organisations must commit themselves to provide the time and resources to educate those who provide care for patients.

This LocSSIPs is designed for Nasogastric (NG), Orogastric (OG) and Nasojejunal (NJ) tube insertion. The SOP will help to familiarise staff with the LocSSIPs and safety checklist prior to its use.

Never Events:

No never events have been recorded for this procedure in the Paediatric Intensive care Units. These checklists are designed to ensure that patient safety during a procedure is paramount and that risk of never events is reduced.

List management and scheduling:

Scheduled procedures will be discussed and planned at PICU 'business round' meetings which, incorporates the Morbidity and Mortality data collection and the Safety Briefing. Emergent procedures will be performed as necessary under the direction of the consultant in charge of the Paediatric Intensive Care Unit.

Patient preparation:

The child or young person should be involved in their care planning when possible and the clinician who needs to perform the procedure should explain the procedure to the child after explaining why it is necessary. The play specialist or clinical psychologist may be useful in helping during the discussion and consenting process and during preparation for the procedure.

If a competent young person refuses to consent to a procedure, parents/guardians cannot override a decision for treatment that you consider to be in their best interests, but you can rely on parental consent when a child lacks the capacity to consent. Where possible, the child/young person should consent to their own treatment however, if the child cannot competently consent, then a parent/guardian can provide the consent on their behalf. This can be discussed at the bedside or in a treatment/quiet room for more privacy- it should be wherever is felt to be most comfortable.

The identity of the patient must be verified by the child/parent/carer. Name and Date of Birth (DOB) will be checked against the ID band as per UHL policy. In infants under 1 year of age, ID bands must be attached to the lower limbs only. In children of all other ages, the ID band should be attached to the non-dominant hand/limb.

Consent should be documented in the notes and ticked as gained on the UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion. Consent should include the possible difficulties that may be encountered. An explanation of how the procedure will be carried out should be given, detailing the strategies you utilise to ensure strict adherence to infection prevention guidance.

All ventilated children must have a NG/OG/NJ tube as this allows for stomach emptying when on free

drainage and reduces the risk of aspiration. It is also necessary for when the child/young person is medically well enough to begin feeding. Feeds are commenced via the NG/OG/NJ Tube with either expressed breast milk or suitable formula/prescribed milk that has been carefully chosen between the family, dietetic team and the medical team in charge of that patients care.

Some children require NG/OG/NJ Tubes when not ventilated to increase their calorific input for reasons that are specific to that individual.

NJ tubes are required for children/young people who are not tolerating their feeds and losing weight despite all attempts to rectify problems that have arisen. These are inserted using the same method as an NG/OG/NJ tube but with a longer length and the position should be confirmed with an x-ray and reported as appropriate for use by an ANP or doctor.

Workforce – staffing requirements:

One person must be assigned to complete the checklist in addition to the operator and assistant performing the procedure. Staffing requirements will be allocated in line with unit activity.

Ward checklist, and ward to procedure room handover:

The UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion for each individual procedure will hold all information regarding the procedure. The procedure is completed by a confident and competent nurse or nursing associate (if applicable), no further information is required for handover.

Procedural Verification of Site Marking:

This is not required for the procedures covered in this SOP. Location of the NG/OG/NJ tube will be documented on the UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion.

Team Safety Briefing:

The team safety briefing is incorporated into each checklist. As a minimum, the operator and person completing the checklist (usually the bedside nurse) must be present. It is clear that at times of high activity the person completing the checklist may also need to perform the role of assistant.

Sign In/ Before the Procedure:

'Sign In' refers to the checklist completed at the patient's arrival into the procedure area.

- Sign In will take place at the patient's bedside
- The sign in must be carried out by two people. The people present should ideally be the operator and assistant. That the patient will be encouraged to participate where possible.
- Any omissions, discrepancies of uncertainties must be resolved before proceeding.

The check should consist of:

- Confirmation of the patient identity and consent for the procedure,
- Identification of all team members and their roles,
- Pre-procedure observations documented and the patients medication/coagulation been checked and
- Are there any concerns about the procedure?

Time Out:

'Time Out' is the final safety check that must be completed for all patients undergoing invasive procedures just before the start of the procedure. The WHO checklist is the Gold Standard and may be adapted for local use with the deletion or addition of elements to suit the procedural requirements. Some Royal Colleges or other national bodies have checklists for their specialties.

The Time Out should include:

- That the patient will be encouraged to participate where possible,
- Who will lead it (any member can),
- That all team members must be present and engaged as it is happening,
- That is will occur immediately before the procedure start,
- That separate time out checklist will be completed if there is a separate or sequential procedure happening on the same patient,
- That any omissions, discrepancies or uncertainties must be resolved before staring the procedure.

Specifically, the verbal time out between team members confirms that:

- A Basal skull fracture has been ruled out if applicable,
- Coagulation has been rectified,
- The patient position is optimal,
- All members of the team have roles assigned and
- Any concerns about the procedure have been identified and mitigated.

As per UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion **(**Appendix 1).

Performing the procedure:

The procedure can only be performed by those with appropriate training – this will be in line with current PICU training. Direct supervision must occur for those learning the procedures by an appropriately trained individual. All operators must ensure familiarity with the equipment required prior to performing any invasive procedure.

Monitoring:

The patient should be monitored throughout the time in the procedural area. Consider:

- O2 Sats
- ECG
- Blood Pressure (NIVBP should cycle regularly)
- Pulse rate
- Respiratory rate
- GCS
- Temp
- (Capillary Blood Glucose) CBGs
- ETCO2 for ventilated patients

Ensure that this is compliant with the Analgesia and Sedation Guideline for Paediatric Intensive Care Unit C10/2009 if relevant.

Prosthesis verification:

All equipment used must be checked that it is within date. As appropriate there is recording of the device on the UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion.

Prevention of retained Foreign Objects:

The responsibility for ensuring all sharps (guidewires) are disposed of correctly is with the procedure operator.

Radiography:

These procedures do not require radiography during the procedure. If post procedure X-rays are required this is clearly highlighted on UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion. The UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion also requires verification that the NG/NJ tube is safe to use.

Sign Out:

'Sign Out' must occur post procedure. This covers, as appropriate, the following:

- Confirmation of procedure,
- Confirmation that counts (guidewires) are complete if applicable,
- Discussion of post-procedural care and any outstanding investigations required to confirm safe completion of the procedure,
- Equipment problems to include in team debriefing.

All the above points will be documented on the UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion.

Handover:

There should be no handover required as most NG/OG/NJ tube placements are conducted by the bedside nursing team. Should a tube be inserted by a member of the medical team then they should provide an explanation of the procedure. All other information pertaining to the NG should be documented on the safety checklist (UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion**)**.

Team Debrief:

A team debrief should occur as a discussion at the end of all procedure sessions, this should happen when the patient has been made comfortable, the procedural waste has been disposed of and documentation has been completed.

For those who have been learning the procedure and have been supervised by an appropriately trained person, the appropriate documentation/leaning pack must be completed.

Post-procedural aftercare:

Dispose of sharps (guidewires) safely and check the integrity of the guidewire to ensure it is intact. Test aspirate to confirm NG/OG/NJ position-this should be verified by a first and second checker, inform the team if the NG/OG/NJ is suitable for use and document this. CHG wipe reusable equipment and return to original places.
Observe for signs of respiratory distress:

- Increase/Decrease of respiratory rate,
- Coughing or increased mucus production,
- Pyrexia or Tachycardia – which may indicate chest infection,
- Skin pallor/cyanosis- Oxygen Saturations level if being monitored,
- Change in conscious level, response or behaviour,
- Feeds must be stopped immediately with any coughing, gagging or vomiting or signs of respiratory distress until the NG/OG/NJ tube can be confirmed as being in the correct position.

If the tube is not flushed appropriately, it will become blocked and require replacing. Observe for signs of Tube Trauma: these may include bleeding, soreness or ulcers visible in the nasal cavity or coughing or vomiting blood. Skin integrity may be compromised by adhesive or tube pressure. Before commencing NG/OG/NJ feeds a PYMS Nutritional Assessment must be completed and re-assessed weekly. For babies, the nutritional status should be assessed daily. Unless contra-indicated children should be fed at an angle of 30-45 degrees to aid digestion not prone as this can increase the risk of aspiration.

Discharge:

Not applicable for children/young people who need to remain in PICU. Those children/young people in a ward area will receive a full multidisciplinary supported risk assessment and it will be documented before a patient with a Nasogastric tube is discharged from acute care into the community.

- A working feeding plan must be formulated in conjunction with the Dietician, Parents/Carers with regards to the Infant or Child's nutritional needs and lifestyle
- Parents/Carers must undertake training, supervised practice and competency assessment on all aspects of the procedure and care of their child and the NG/OG tube – this must be documented in the Children's Services Parents NG competency assessment booklet & Case Notes
- Parents/Carers must be made aware of whom to contact for emergency Insertion and Management of
- Procedure for Ongoing Care of Nasogastric/Orogastric Tube in Infants and Children advice.
- Within Leicestershire - Referral must be made to the Home Enteral Nutrition Service (Tel: 0116 272 7216) and the Children's Community Nursing Service (Tel: 0116 225 5453) at least 5 days warning must be given.

Governance and Audit:

Deviation from the LocSSIPs unless clinically justified in an emergency constitutes a safety incident. All safety incidents must be recorded on a DATIX.

Any Datix submitted will be fully investigated by a designated person and overseen by the Children's Patient Safety Coordinator. All findings will be fed back to the team involved and any learning will be cascaded throughout the Children's Hospital.

To submit monthly Safe Surgery Audit and WHOBARS assessment as per Safe Surgery Quality Assurance & Accreditation programme.

Training:

All staff performing or assisting with access procedure must receive appropriate training. Training opportunities and documented progress must be discussed with the supervisor/assessor/preceptor.
Training will address:

- Hand Hygiene,
- Aseptic non-touch technique (ANTT) and
- pH testing for tip placement confirmation of NGT/OGT/NJT to ensure that they have completed and passed the Insertion competencies based UHL LCAT assessment.

Documentation:

The UHL Safer Surgery Safety Checklist is the record of insertion and should be filed in the patients notes. UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion (Appendix 1).

References to other standards, alerts and procedures:

National Safety Standards for Invasive Procedures, NHS England 2015: https://www.england.nhs.uk/patientsafety/wp-content/uploads/sites/32/2015/09/natssips-safety-standards.pdf

UHL Safer Surgery Policy: B40/2010
Insertion and Management of Nasogastric and Orogastric Tubes in Children and Neonates B54/2017
Feeding Guidelines for Children on Intensive Care Units C90/2016
Hand Hygiene UHL Policy B32/2003
Analgesia and Sedation Guideline for Paediatric Intensive Care Unit C10/2009
Consent to Examination or Treatment UHL Policy A16/2002
Shared decision making for doctors: Decision making and consent (gmc-uk.org)
COVID and PPE: UHL PPE for Transmission Based Precautions - A Visual Guide
COVID and PPE: UHL PPE for Aerosol Generating Procedures (AGPs) - A Visual Guide

END

Appendix 1: UHL Safer Surgery Invasive Procedure Safety Checklist: NG/OG/NJ Tube Insertion

Patient ID Label *or write name and number*
Hospital No.:
Name:
D.O.B.:
Sex:

STOP THE LINE

Leicester Children's Hospital

Invasive Procedure Safety Checklist

NG/OG/NJ Tube Insertion in the Children's and Neonatal services

LocSSIPs

University Hospitals of Leicester NHS Trust

East Midlands Congenital Heart Centre

Neonatal Services

Procedure date:	Operator:	Designation:	Tube type:
Time:	Supervision required?:	Yes ☐ No ☐	NG/OG/NJ Tube Batch No.:
	Name:	Designation:	Proposed date for tube change review / replacement:

Nothing can be administered via the NG/OG/NJ until the position check is complete!

BEFORE THE PROCEDURE/SIGN IN		TIME OUT		SIGN OUT	
Patient identity checked as correct?	Yes ☐ No ☐	**Verbal confirmation between team members before start of Procedure**		Was insertion successful	Yes ☐ No ☐
Appropriate consent completed?	Yes ☐ No ☐	Base of skull # ruled out if applicable?	Yes ☐ No ☐ N/A ☐	Any equipment issues?	Yes ☐ No ☐
Are there any contraindications to performing the procedure? (Coagulopathy / base of skull # / previous sphenoidal surgery)	Yes ☐ No ☐	Coagulopathy rectified?	Yes ☐ No ☐ N/A ☐	Any concerns about the patient's presentation post-insertion	Yes ☐ No ☐
		Is patient position optimal?	Yes ☐ No ☐ N/A ☐	Chest X-ray required?	Yes ☐ No ☐
Are there any concerns about this procedure for the patient?	Yes ☐ No ☐	All team members identified and roles assigned?	Yes ☐ No ☐ N/A ☐	NG/NJ/OG tube secured? (if in ITU, record length on ITU chart)	Yes ☐ No ☐
		Any concerns about procedure?	Yes ☐ No ☐ N/A ☐		
		If you had any concerns about the procedure, how were these mitigated?:		**Signature of operator:**	

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Nasogastric/Orogastric/Nasojejunal Tube Insertion(s) for Children/Young People Standard Operating Procedure UHL Paediatric Intensive Care Unit (PICU) (LocSSIPs) Approved by CMG 2023

Based on the WHO Surgical Safety Checklist, URL: http://www.who.int/patientsafety/safesurgery/en. © World Health Organization 2008 All rights reserved. PLEASE TURN OVER

Patient ID Label *or write name and number*
Hospital No.:
Name:
D.O.B.:
Sex:

STOP THE LINE

Leicester Children's Hospital

Invasive Procedure Safety Checklist

NG/OG/NJ Tube Insertion
in the Children's and Neonatal services

LocSSIPs

University Hospitals of Leicester NHS Trust

East Midlands Congenital Heart Centre

Neonatal Services

NG/OG/NJ Tube Position Check

NG/OG/NJ tube safe to use?	Yes ☐ No ☐
If the tube is not safe to use (no positive pH check) then to proceed to 'If no positive pH, check on insertion/if patient coughing during insertion.'	
Size of tube:	
Length of NG/OG/NJ nose/mouth (cm):	
PH check on insertion:	
Nostril used?	Left ☐ Right ☐

If no positive pH check on insertion/if patient is coughing excessively during insertion

Chest xray check required?	Yes ☐ No ☐
Does the tube path follow the oesophagus and avoid the contours of the bronchi?	Yes ☐ No ☐
Does the tip clearly bisect the carina or the bronchi?	Yes ☐ No ☐
Is the tip clearly visible below the left hemi-diaphragm?	Yes ☐ No ☐
Is the tube safe to use?	Yes ☐ No ☐

Inserted	2nd Checker	Chest xray reviewed by
Name:	Name:	Name:
Signature:	Signature:	Signature:
Date:	Date:	Date:
Time:	Time:	Time:

If pH remains 6.0 or above

Consider completing the 'Individualised Nasogastric tube care plan for children where gastric pH is consistently 6 or above' document with a senior doctor to assess whether tube is safe to use. Yes ☐ No ☐

(Document is found in Appendix 4 'Insertion and Management of Nasogastric and Orogastric Tubes in Neonates, Infants, Children and Young People'. (BS4/2017)

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Appendix 2: Patient Information Leaflet for *Procedure* Available at: Home (leicestershospitals.nhs.uk)

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