
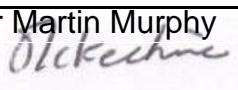



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Invasive Procedures for Adult Intensive Care Standard Operating Procedure UHL Intensive Care LocSSIP

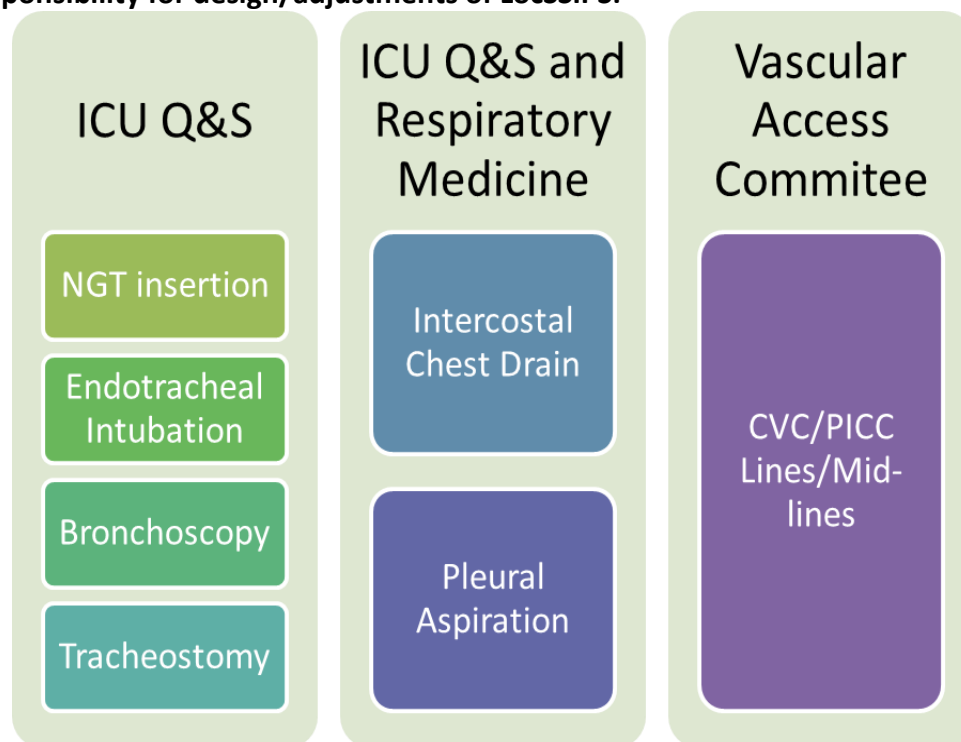
Change Description Change in format	Reason for Change Trust requirement
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APPROVERS	POSITION	NAME
Person Responsible for Procedure:	Head of service for GH AICU Head of service for LGH AICU Head of service for LRI AICU	Dr Sameer Hanna Jumma Dr Robert Powell Dr Simon Scott
SOP Owner:	Q and S Lead for AICU	Dr Martin Murphy 
Sub-group Lead:	Deputy Clinical Director for Adult Critical Care	Dr Gareth Williams

<p>Introduction and Background:</p> <p>This Standard Operating Procedure will cover invasive procedures on all patients requiring a LocSSIP within the adult intensive care environment on all three sites: Glenfield Hospital Adult Intensive Care Unit, Leicester General Hospital Intensive Care Unit, and Leicester Royal Infirmary Adult Intensive Care Unit. The following invasive procedures performed on ICU will be covered by this SOP:</p> <ul style="list-style-type: none"> • <u>NG Tube insertion</u> • <u>ITU Intubation</u> • <u>Bronchoscopy</u> • <u>Intercostal Chest Drain Insertion</u> • <u>Pleural Aspiration</u> • CVC/PICC/Mid-line Insertion • <u>Tracheostomy</u> <p>The design of each LocSSIP is based on Intensive Care Society guidance. This should facilitate trainee familiarity with the LocSSIPs as they rotate between Intensive Care Units during training.</p> <p>Appendix 1 to 6 includes a copy of each of the individual LocSSIP checklist for all the above procedures. Quick links to the checklists in bold above.</p>
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Summary of Responsibility for design/adjustments of LocSSIPs:



List management and scheduling:

Scheduled procedures will be discussed and planned at ICU handover meetings and consultant led ward rounds taking into account predicted unit activity. Emergent procedures will be performed as necessary under the direction of the consultant in charge of the Intensive Care Unit.


Patient preparation:

For patients undergoing tracheostomy, if possible, the patient will be fasted in line with usual pre-operative practice.

For all procedure, the decision whether to proceed with the procedure when coagulation abnormalities, anti-coagulant medication or physiological disturbances are present remain the responsibility of the ICU consultant in charge of the patient

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.

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Ward checklist, and ward to procedure room handover:

The LocSSIP checklist for each individual procedure will cover the pre-procedure checklist and required handover to the bedside nurse.

Procedural Verification of Site Marking:

This is not required for the procedures covered in this SOP

Team Safety Briefing:

The team safety briefing is incorporated into each checklist. As a minimum, 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:

This is covered by the LocSSIP checklist for each individual procedure. The patient is not moved to a procedure room for invasive procedures on Intensive Care.

Time Out:

This will be performed in line with the individual LocSSIP checklist pre-procedure and will ensure continuing with the procedure is safe.


Performing the procedure:


Each individual procedure can only be performed by those with appropriate training – this will be in line with current ICU 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:

All patients undergoing invasive procedures must continue with ongoing monitoring. This as a minimum will include:

- CVS monitoring: Invasive or non-invasive BP, ECG
- Resp: SpO₂ monitoring, Respiratory rate
- End-tidal CO₂ is **mandatory** with any procedure involving invasive ventilation (namely tracheostomy, intubation)
- Blood sugar levels, temperature, Urine output as appropriate

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Prosthesis verification:

All equipment used must be checked that is within date. As appropriate there is recording of the device on the LocSSIP checklist.

Prevention of retained Foreign Objects:

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

The appropriate post CVC/PICC/Mid-line insertion checklist ensures that all guidewires have been removed.

Radiography:

These procedures do not require radiography during the procedure. If post procedure chest X-rays are required this clearly highlighted on each individual LocSSIP.

Sign Out:

Sign out must occur post procedure in line with each individual LocSSIP. This covers, as appropriate, the following:

- Confirmation of procedure
- Confirmation that counts (instruments, sharps and swabs) are complete if applicable
- Confirmation that specimens have been labelled correctly and placed in appropriate transport medium
- 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 LocSSIP forms.

Handover:


Handover to the bedside ICU nurse will include the following:

- Confirmation of the procedure
- Any complications or difficulties encountered
- Outstanding investigations required to confirm safe completion of the procedure

Team Debrief:

Debriefing following end of sessions will occur at the twice daily handovers on AICU as a minimum. Opportunities will arise throughout the day and can be utilised as necessary. These include:

- Nursing handover
- Consultant ward rounds

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- Board rounds
- MDT meetings

Post-procedural aftercare:

Patients will remain on Intensive Care post procedure with ongoing monitoring appropriate to the patient's level of dependency.

Discharge:

Not applicable

Governance and Audit:

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

Audit for LocSSIPs is performed as a mandatory annualised audit. The first audit was undertaken March to June 2018.

Training:

No specific additional training is required to use the LocSSIPs. Familiarity and competence to perform each of the ICU LocSSIPs remains the responsibility of the **operator** in line with their training. If required appropriate senior supervision **must** sought.

Documentation:

Each LocSSIP checklist must be filed contemporaneously in the notes. In addition an additional date and timed entry should be completed:

- "Procedure name – performed by *operator*. See LocSSIP for further information"

References to other standards, alerts and procedures:

ICS LocSSIPs:

http://www.ics.ac.uk/ICS/Guidelines___Standards/ICS/guidelines-and-standards.aspx

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

END

Appendix 1 – Bronchoscopy on ICU

INVASIVE PROCEDURE SAFETY CHECKLIST: Bronchoscopy on Intensive Care

1. BEFORE THE PROCEDURE		
Patient identity checked as correct?	Yes	No
Appropriate consent completed?	Yes	No
Is suitable equipment available? (Difficult airway trolley/bronchoscope)	Yes	No
Is appropriate monitoring available? (including EtCO2)	Yes	No
Are there any contraindications to performing the procedure? (High FiO2, PEEP, anatomical, vascular, coagulopathy)	Yes	No
Medicines and coagulation checked?	Yes	No
Any known drug allergies?	Yes	No
Is feed stopped and NG aspirated?	Yes	No
Are spinal precautions required?	Yes	No
Are there any concerns about this procedure for the patient?	Yes	No


2. TIME OUT		
Verbal confirmation between team members before start of procedure		
Is patient on adequate ventilator settings and 100% FIO2?	Yes	No
Is patient adequately sedated (and paralysed if required)?	Yes	No
Is position optimal?	Yes	No
All team members identified and roles assigned?	Yes	No
Any concerns about procedure?	Yes	No
If you had any concerns about the procedure, how were these mitigated?		

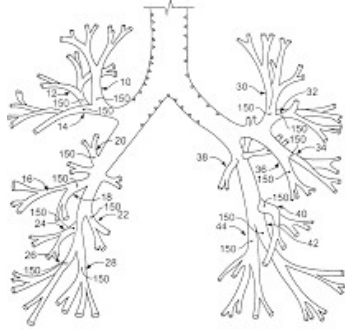
Patient Identity Sticker:

3. SIGN OUT		
Any equipment issues?	Yes	No
Capnography in situ?	Yes	No
Ventilator settings reviewed post procedure?	Yes	No
Is a chest X-ray required?	Yes	No
Sedation reviewed?	Yes	No
Post procedure hand over given to nursing staff?	Yes	No

Procedure date:		
Time:		
Operator:		
Observer:		
Assistant:		
Level of supervision:	SpR	Consultant

Signature of responsible clinician completing the form

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During Procedure					
Sedation	Propofol	ml/hr	Opiate	ml/hr	Other:
Findings:			 FIG. 2A		
BAL's Sent:					
Tissue Sent:					
Additional Comments/Adverse events noted:					

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Appendix 2 – Intercostal Chest Drain Insertion

Intercostal Chest Drain Check list and Report Place undertaken ☐ treatment room ☐ bedside ☐ radiology ☐ theatres ☐ ICU ☐ endoscopy ☐ ED

<p>Name DoB Hospital number (please affix patient label and confirm identity)</p> <p>Pre procedure Checklist (Sign in) Name: _____ Name: _____</p> <p>Have all team members introduced themselves and role: <input type="checkbox"/> Y <input type="checkbox"/> N (ICU, unconscious)</p> <p>Indication: <input type="checkbox"/> Air <input type="checkbox"/> Fluid <input type="checkbox"/> Both</p> <p>Radiology reviewed: <input type="checkbox"/> CT <input type="checkbox"/> CXR</p> <p>Confirm side of procedure: <input type="checkbox"/> Left <input type="checkbox"/> Right</p> <p>Observations: BP: ____ SpO2: ____ FIO2: ____ HR: ____</p> <p>Patient's coagulation and medication checked: <input type="checkbox"/> Yes <input type="checkbox"/> No Platelets ____ PT ____</p> <p>Consent: <input type="checkbox"/> Written <input type="checkbox"/> Verbal <input type="checkbox"/> Part IV</p> <p>Thoracic US for Fluid done: <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A</p> <p>Thoracic US findings: <input type="checkbox"/> Echoic <input type="checkbox"/> anechoic</p> <p>Effusion depth (cm) ____ Other findings: _____</p> <p><input type="checkbox"/> Realtime US <input type="checkbox"/> immediate US marking</p>	<p>Procedural Checklist and Report</p> <p>Aseptic technique: Sterile <input type="checkbox"/> Gown <input type="checkbox"/> Gloves <input type="checkbox"/> At least two applications of chloroprep <input type="checkbox"/> Sterile field protected by drapes</p> <p>STOP if unable to aspirate Air or Fluid with local anaesthetic</p> <p>Side: <input type="checkbox"/> left <input type="checkbox"/> right Site: _____</p> <p>Lignocaine <input type="checkbox"/> 1% <input type="checkbox"/> 2% ____ (mls)</p> <p>Adrenaline present with lignocaine <input type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Concentration: _____</p> <p>Fluid appearance: _____</p> <p>Samples: <input type="checkbox"/> Biochemistry <input type="checkbox"/> Cytology <input type="checkbox"/> MC&S</p> <p>Amount drained initially: _____ (mls)</p> <p>Drain Size: ____ Secured: <input type="checkbox"/> Suture <input type="checkbox"/> Dressing</p> <p>Closing mattress (>size 18) placed <input type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Complications: Pain (0-10) ____ Other: _____</p> <p>Guidewire removed: <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A</p>	<p>Post Procedural Checklist (Sign Out)</p> <p>Order Post procedure CXR and handover for review: <input type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Start Chest Drain Chart <input type="checkbox"/> Y Prescribe analgesia <input type="checkbox"/> Y</p> <p>Information leaflet on chest drain care given to patient and explained: <input type="checkbox"/> Y <input type="checkbox"/> N (ICU)</p> <p>Ensure specimens correctly labelled: <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/a</p> <p>Observations: BP: ____ SpO2: ____ FIO2: ____ HR: ____</p> <p>Confirm instructions on fluid drainage to nursing staff: <input type="checkbox"/> Y</p> <ul style="list-style-type: none"> Drain no more than 1500mls of fluid at any one time. Stop drainage by closing tap if patient develops pain, coughing, breathlessness or 1500mls drained for 2 hours then reopen. <p>Confirm frequency of observations: <input type="checkbox"/> every 15 mins for 1 hour then hourly for 2 hours then 4 hourly.</p> <p>Have all items of stock running low (<3 remaining) been ordered urgently: <input type="checkbox"/> Y <input type="checkbox"/> N or N/A</p> <p>Are there procedural problems that need follow-up: <input type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Doctor inserting drain: _____ Grade: _____</p> <p>Signature: _____ Date: ____/____/____</p> <p>Supervised: <input type="checkbox"/> Y <input type="checkbox"/> N Assistant <input type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Name: _____ Grade: _____ Signature: _____</p>
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Appendix 3 – NG Tube insertion

INVASIVE PROCEDURE SAFETY CHECKLIST: NG Tube Insertion on Critical Care/Theatres

NOTHING CAN BE ADMINISTERED VIA THE NG TUBE UNTIL THE POSITION CHECK IS COMPLETE!

1. BEFORE THE PROCEDURE		
Patient identity checked as correct?	Yes	No
Appropriate consent completed?	Yes	No
Are there any contraindications to performing the procedure? (Coagulopathy/base of skull#/ previous sphenoidal surgery)	Yes	No
Are there any concerns about this procedure...for the patient?	Yes	No

Procedure date:		
Time:		
Operator:		
Observer:		
Assistant:		
Level of supervision:	SpR	Consultant
NG Tube batch no		

Patient Identity Sticker:

2. TIME OUT			
Verbal confirmation between team members before start of procedure			
Base of skull # ruled out if applicable?	Yes	No	N/A
Is position optimal?	Yes	No	
All team members identified and roles assigned?	Yes	No	
Any concerns about procedure?	Yes	No	
If you had any concerns about the procedure, how were these mitigated?			
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3. SIGN OUT		
Any equipment issues?	Yes	No
Chest X-ray ordered	Yes	No
Post procedure hand over given to nursing staff?	Yes	No
Signature of operator		

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NG TUBE POSITION CHECK		
THIS MUST BE COMPLETED PRIOR TO NGT BEING USED		
CXR check:		
Most current X-ray for correct patient?	Yes	No
Does the tube path follow the oesophagus and avoid the contours of the bronchi?	Yes	No
Does the tube clearly bisect the carina or the bronchi?	Yes	No
Does the tube cross the diaphragm in the midline?	Yes	No
Is the tip clearly visible below the left hemi-diaphragm?	Yes	No
NG TUBE SAFE TO USE?	YES	NO
Length of NGT at nose (cm)		
Name		
Signature		
Date		
Time		

Appendix 5 – ITU Intubation

INVASIVE PROCEDURE SAFETY CHECKLIST:

1. BEFORE THE PROCEDURE		
PREPARATION		
Have all members of the team introduced themselves?	Yes	No
Is patient position optimised?	Yes	No
Are spinal precautions required?	Yes	No
Pre-oxygenate: 100% FiO2 for 3 mins	Yes	No
Are nasal cannulae for apnoeic ventilation needed?	Yes	No
Is a Water's circuit available and ready?	Yes	No
Is cricoid pressure considered and NGT aspirated?	Yes	No
EQUIPMENT & DRUGS		
Is monitoring attached ? (ECG, SpO2, BP on regular cycling, EtCO2)	Yes	No
Is suction ready?	Yes	No
Is adequate venous access in place?	Yes	No
Are working laryngoscope/s and bougie ready?	Yes	No
Are endotracheal tube/s ready?	Yes	No
Are oropharyngeal airways and iGels available?	Yes	No
Is difficult airway trolley likely to be needed?	Yes	No
Are drugs and vasopressors ready?	Yes	No
Any drug allergies known?	Yes	No
Post intubation sedation ready?	Yes	No
TEAM		
Is senior help needed?	Yes	No
Is role allocation clear? (Intubator, drugs, assistant, cricoid, MILS)	Yes	No
Is difficult airway anticipated?	Yes	No

ITU Intubation


2. TIME OUT		
Verbal confirmation between team members before start of procedure		
Difficult airway plans discussed?	Yes	No
Is senior help needed?	Yes	No
Is role allocation clear? (intubator, drugs, assistant, cricoid, MILS)	Yes	No
Any concerns about procedure?	Yes	No
If you had any concerns about the procedure, how were these mitigated?		
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Procedure date:		
Time:		
Operator:		
Observer:		
Assistant:		
Level of supervision:	SpR	Consultant

Patient Identity Sticker:

3. SIGN OUT		
Endotracheal position confirmed (EtCO2 trace)?	Yes	No
Tube depth checked (B/L Air entry)?	Yes	No
ETT secured and cuff pressure checked?	Yes	No
Nasal O2 Removed?	Yes	No
Appropriate ventilator settings confirmed?	Yes	No
Analgesia and sedation started?	Yes	No
ICP optimisation required?	Yes	No
Chest X-Ray required?	Yes	No
Hand over to nursing staff?	Yes	No
Procedure Documentation (overleaf) completed?		

Signature of responsible clinician completing the form	
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Procedure Documentation		
Personnel	Name	Grade
Intubation		
Other (Assistant)		
Drug administration		
Intubation		
Laryngoscopy grade		
Oral/Nasal ETT		
Size ETT		
Adjuncts used - type		
Larangyscope		
Pharmacology	Drug	Dose
Induction agent		
NMB agent		
Opiate		
Vasoactive agent		
Other Drugs		
Spinal precautions used (If Applicable):		
Comments and Adverse Events documented:		

Appendix 6 – Tracheostomy

INVASIVE PROCEDURE SAFETY CHECKLIST: Tracheostomy

BEFORE THE PROCEDURE		
Have all members of the team introduced themselves?	Yes	No
Patient identity checked as correct?	Yes	No
Appropriate consent completed?	Yes	No
Is suitable tracheostomy and equipment available? (difficult airway trolley/bronchoscope)	Yes	No
Is appropriate monitoring available? (including EtCO2)	Yes	No
Are there any Contraindications to performing the procedure? (High FIO2, PEEP, anatomical, vascular, coagulopathy)	Yes	No
Medicines and coagulation checked?	Yes	No
Any Known drug allergies?	Yes	No
Is feed stopped and NG aspirated?	Yes	No
Are spinal precautions required?	Yes	No
Are there any concerns about this procedure for the patient?	Yes	No
Level of difficulty anticipated prior to the start of the procedure		


TIME OUT		
Verbal confirmation between team members before start of procedure		
Is patient on adequate ventilator settings and 100% FIO2?	Yes	No
Is patient adequately sedated and paralysed?	Yes	No
Is position optimal?	Yes	No
Cuff tested as intact?		
All team members identified and roles assigned?	Yes	No
Any concerns about procedure?	Yes	No
If you had any concerns about the procedure, how were these mitigated?		
<div></div>		

SIGN OUT		
Tracheostomy position confirmed with Bronchoscope?	Yes	No
Capnography in situ?	Yes	No
Ventilator settings reviewed post procedure?	Yes	No
Sedation reviewed?	Yes	No
Post procedure hand over given to nursing staff?	Yes	No

Signature of responsible clinician completing the form	<div></div>
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Procedure date:		
Time:		
Operator:		
Observer:		
Assistant:		
Level of supervision:	SpR	Consultant
Equipment & trolley prepared:		

Patient Identity Sticker:	<div></div>
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The Procedure				
Personnel				
Bronchoscopy:			Tracheostomy:	
Grade:			Grade:	
Supervising consultant:				
Sterile Scrub/Gown and Gloves?				Yes <input type="checkbox"/>
2X Chloraprep sticks to skin?				Yes <input type="checkbox"/>
Large fenestrated drape Used?				Yes <input type="checkbox"/>
Sedation:			Local Anaesthetic:	
Level of Entry	1-2 Ring		AP Entry Point:	
	2-3 Ring			
	Other(Specify)			
Tracheostomy tip is: Cms from carina as confirmed by endoscope				
Tracheostomy Kit/ Batch No:				
Size/Type Tracheostomy:				
Additional Comments:				
Chest X-Ray Ordered Post Procedure?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
Signature:				

Complications				
Correct ventilator settings set post procedure			Yes	<input type="checkbox"/>
None <input type="checkbox"/>	Vascular puncture <input type="checkbox"/>	Malposition <input type="checkbox"/>		
2 nd person required <input type="checkbox"/>	Unable to place <input type="checkbox"/>	Other <input type="checkbox"/>		