Ashford and St. Peter's Hospitals
NHS Foundation Trust

Neonatal transfers to MRI for self-ventilating babies

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Date	**Comments**	**Approved By**

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1. Guideline

Neonatal transfers to MRI for self-ventilating babies

General Principles

Patients requiring MRI scan can be ventilated or self-ventilating. Patients on hi-flow or CPAP are unable to go into the MRI Scanner as we do not have suitable non-invasive ventilation equipment suitable for this purpose.

For babies that are ventilated, see the separate guideline.

- All MRI scans need to be discussed with the attending or HDU Consultant.
- MRI referral paperwork, including parental consent form must be completed by the medical team and sent to MRI and the case should be discussed with the responsible radiographer (ext 2700).
- Use the pram or cot to transfer the baby to MRI. Babies in NC O2 may also be transferred in either their cot or pram. (Ventilated babies must be transferred using the transport incubator)
- Prevention of hypothermia during the procedure in key.
- An experienced nurse and/or doctor/ANNP should accompany the baby.
- Parents should be fully informed and can accompany their baby to MRI. During the scan they will need to wait in the MRI waiting area.
- The neonatal nurse accompanying the baby takes responsibility of the baby during the scan, and should observe the baby and the saturations throughout. If there are problems or concerns, he/she should call 2222 for neonatal priority call to get help.

Infants unsuitable for MRI scan

- Infants with metallic devices – stents, screws, clips
- Infants on iNO, Vapotherm (High flow), CPAP or HFOV

Preparation for MRI

- Once the scan time has been confirmed, leave adequate time to prepare the baby and arrange a porter to accompany you to MRI if required.
- Ensure the baby has had a feed and medication for sedation (if required) in a timely manner before the scan.
- Ensure the baby is wearing two name bands.
- Take a **Thermometer, Portable saO2 Monitor, BVM** (with correct sized mask) and **small oxygen cylinder** with you if the baby has the potential to desaturate or have apnoea's. Also take **Appeel wipes** so you can remove any ECG leads or ear muffs without pulling the baby's skin.
- If the baby is in oxygen, you will need to take a small CD cylinder and a reel of green oxygen tubing so you can deliver oxygen from outside of the scanning room- approx. 6-7 meters in length. (This is kept in the transport cupboard)
- Consider taking oral sucrose or extra milk in case the baby becomes unsettled.
- CFM and ECG leads should be removed and the baby should have a sats monitor in situ. A portable Drager monitor or portable sats monitor should be utilised for the cot/pram transfer.
- Ensure the baby's temperature is normothermic before departing NICU (36.6-37.5). Remember to wrap the baby in extra blankets and take extra for swaddling in the scanner. Take a transwarmer mattress with you in case the baby is cold following the scan. You could use bubble wrap in addition. You can also place a hat on the baby, ensuring there are no metal elements on the hat.
- The baby can be dressed as long as there are no metal poppers near the head/neck area. Long sleeved vests and knitted cardigans are useful for keeping the baby warm also.
- Consider using the Mini-muffs (ear muffs) during the scan to minimise the baby being exposed to loud noises. (Please note they will not fit all term babies)
- Remember to take the **Vac-mat** to use in the scanner. You can put around baby before departing NICU if you wish. Directions for use are kept with the mattress.
- If the baby has and IV infusion and this is not essential to the well-being of the baby, then consider stopping this briefly for the scan, ideally this should be done before leaving NICU. There are 300cm extension lines available if required. You would need a minimum of 3 of these per infusion.

At MRI

- On arrival to the scanner, the team will check the baby's identity, and show you to a patient area outside the scanning room.
- You must check the baby's temperature before the scan, and wrap the baby in blankets, dress in hat and place on the Vac Mat. You can either cover the baby's ears with gauze, or the mini muffs.
- The scanning room is relatively cold and if necessary you can consider using a transwarmer mattress during the scan which is considered MRI compatible.
- You will also need to change the sats monitor and place on the MRI-safe probe onto the baby.
- If the baby is in low-flow oxygen, you can use the green oxygen tubing and cut to the required length needed so the oxygen can be connected outside of the scanning room. With an adapter this can connect to the baby's nasal cannula O2 tubing.
- In the event of you having to enter the scanning room, the nurse/doctor accompanying the baby must remove all metal objects on their person. Generally you will not be expected to enter the scanning room, as the MRI staff will do this. (A team member must be in the room for ventilated babies.)
- If parents are present, they can stay in the patient waiting area in the MRI department. The scan usually take approximately 30 minutes.

After the MRI

- Once out of the scan, release the vacuum from the Vac Mat that is around the baby and check the baby's temperature. If the temperature is borderline (or in smaller babies), utilise the transwarmer mattress earlier to prevent temperature dropping below normal. Temperature should be 36.6-37.5.
- Remove the MRI saO2 probe, and replace with the portable saO2 probe for monitoring the baby on route back to NICU.
- Place baby back into the cot/pram and wrap appropriately depending on your temperature.
- Ensure you have all equipment, update parents and make your way back to NICU.
- Document your episode of care to MRI on Badger.

2. Supporting References

3. Supporting relevant trust guidelines

Neonatal thermoregulation guideline

Neonatal transport guidelines

4. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for babies across neonatal intensive care, transitional care and maternity.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of babies admitted under neonatal care. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

What is expected from the health care professionals using this guideline to look after infants.

d. Approval and Ratification

This guideline will be approved and ratified by the Neonatal Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Neonatal Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Neonatal Unit for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 5 yearly basis.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Neonatal Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Neonatal Guidelines Group
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All patient and staff groups considered
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
No evidence of discrimination
Conclusion • Provide a summary of the overall conclusions
No evidence of discrimination
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
Guideline suitable for implementation

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document: Transfer of neonatal patients to MRI (not ventilated)

Policy (document) Author: Sarah Ord

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Y**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Y**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Y**	
	Is the purpose of the document clear?	**Y**	
	Are the intended outcomes described?	**Y**	
	Are the statements clear and unambiguous?	**Y**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Y**	
	Who was engaged in a review of the document (list committees/ individuals)?	**NGG**	
	Has the policy template been followed (i.e. is the format correct)?	**Y**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**N/A**	
	Are local/organisational supporting documents referenced?	**Y**	
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?	**Y**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	**N/A**	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	**Y**	
	Does the plan include the necessary training/support to ensure compliance?	**Y**	
7.	**Process for Monitoring Compliance**		

		Yes/No/ Unsure/NA	Comments
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**N/A**	
8.	**Review Date**		
	Is the review date identified and is this acceptable?	**Y**	
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Y**	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	Y	

Committee Approval (Neonatal Guidelines Committee)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**M. S. Edwards**	**Date**	**20 August 2021**
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date: n/a			

Appendices: