

Developmental Care in NICU Sound and Quiet

<i>Amendments</i>			
Date	Pages	Comment (s)	Approved by
July 2019		<i>New guideline</i>	NGG

Primary Author: Neonatal Developmental Care Team

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Ratified by: Neonatal Guidelines Group

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Patients first • Personal responsibility • Passion for excellence • Pride in our team

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 1 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	--------------

Contents

SECTION	Page
Executive Summary.....	3
1. Introduction.....	
2. Scope.....	
3. Purpose.....	
4. Duties and responsibilities.....	
5. Policy.....	
6. Approval and ratification.....	
7. Dissemination and implementation.....	
8. Review and revision arrangements.....	
9. Document control and archiving.....	
10. Monitoring compliance with this policy.....	
11. Supporting references / Evidence base.....	

Appendices

Appendix 1	Equality Impact Assessment.....
Appendix 2	Checklist for the review and approval of policies.....

See also: Any relevant trust policies/guidelines or procedures

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 2 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	--------------

1. Introduction

1.1 The neonatal unit can be a stressful environment for babies and their families because of the high levels of sound.

Sound can be hazardous to hearing if it is loud and the baby is exposed often enough and long enough.

Hearing loss is more common among preterm babies compared to term babies. This is a concern because even minimal hearing loss can have a significant effect on speech, academic progress, social and emotional function (Holdgrafer 1995, Lewis et al 2002).

1.2 Studies have shown a number of benefits of reducing high levels of sound for babies and families:

- High levels of sound can cause autonomic instability - physiological changes such as increased heart rate, changes in blood pressure and breathing (Abrams and Gerhardt 2000). This result in the baby using more energy.
- The essential sleep patterns required for growth and neurodevelopment is disrupted by high levels of sound. Reducing sound levels enable babies to have sufficient periods for deep uninterrupted sleep which is crucial for neurodevelopment (Strauch 1993).
- Babies sleep better therefore grow and develop more quickly and efficiently. This contributes to a shorter recovery period.
- Premature babies are not able to shut out external stimuli such as sound which means they keep responding to sounds that an adult would be able to ignore.

1.3 The American Academy of Pediatrics have recommended that noise levels in NICU should not exceed 45dB. However, studies have found that many units have sound levels between 48 to 75dB and at 70% of the time (Philbin 2000, Williams 2007).

	Sound level decibels	Potential effects
Airplane engine	140	Pain - Potential for hearing damage in adults
Pneumatic drill	120	
Power mower	90	
Heavy traffic	80 - 90	
Placing bottle on incubator	80 - 90	
Closing incubator portholes	80	Annoying
Water bubbling in tubes	80	
Upper volume on alarms	65 - 88	
Neonatal unit (general)	60 - 70	
Incubator alarm	65 - 70	
In-utero	40 - 60	Ambient background noise
Normal conversation	45 - 50	
Normal noise inside switched-on incubator	45	
Whisper	20 - 30	

2. Scope

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

3. Purpose

3.1 This guideline 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.

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

4. Duties and responsibilities

4.1 All staff have a duty to enable good developmental care, by encouraging good practice as outlined in this guideline.

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 4 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	--------------

5. Policy

As part of our commitment to family – centred care and reduction of noise levels on NICU, the unit has a period of Quiet Time each day from 12.30pm to 2.30pm.

During Quiet Time sound is minimised, lights dimmed, routine cares and procedures avoided to create a calm and quiet environment. The aim is to promote optimal growth and neurodevelopment of the babies through uninterrupted sleep patterns. Parents are encouraged to spend time skin-to-skin with their baby. Studies have shown skin-to-skin promotes attachment, quiet sleep, growth and increased milk production (BLISS 2007).

To achieve the best possible effect for babies, parents and staff should work together to maintain this period of rest.

Adhere to the follow criteria as much as possible:

- Adhere to sound guidelines.
- Rearrange care-giving activities around quiet time hours.
- Carry out stabilisation procedures only.
- Switch off main light, close blinds and turn on cot side lights.
- Non-essential chatting in the nursery should be kept to a minimum.
- During quiet time, we recommend parents, or parent and one other nominated visitor to visit.
- No cleaning to be carried out.
- Display quiet time posters.
- Provide parents with written information on admission.

Recommendations to reduce noise in the neonatal unit

- Speak softly – “library” or “church” voice.
- Avoid sudden loud noises.
- Close portholes quietly.
- Do not place objects, charts or tap blood bottles on top of incubator.
- Respond promptly to alarms.
- Avoid banging drawers, bin lids and dragging chairs.
- Cover incubators of preterm, sick or neurologically compromised babies to muffle sound.
- Empty bubbling water in ventilator circuit.
- Turn off suction when not in use.
- Bleeps on lower settings or vibration.
- Monitor alarms set on low volume.
- Soft soled, quiet shoes.

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 5 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	--------------

6. Approval and Ratification

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

7. Dissemination and Implementation

7.1 This guideline will be uploaded to the trust intranet 'Neonatal Guidelines' page and thus available for common use.

7.2 This guideline will be shared as part of ongoing education within the Neonatal Unit for both medical and nursing staff.

7.3 All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

8. Review and Revision Arrangements

8.1 This policy will be reviewed on a 5 yearly basis.

8.2 If new information comes to light prior to the review date, an earlier review will be prompted.

9. Document Control and Archiving

9.1 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.

10. Monitoring compliance with this Policy

Measurable Policy Objective	Monitoring/ Audit method	Frequency of monitoring	Responsibility for performing the monitoring	Monitoring reported to which groups/ committees, inc responsibility for reviewing action plans
Regular audit		Annual	Developmental care group	Neonatal governance

11. Supporting References / Evidence Base

Acknowledgement

Neonatal Guidelines 2011-2013. Published by the Bedside Clinical Guidelines Partnership in association with Staffordshire, Shropshire and Black Country Newborn Network.

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 6 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	--------------

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Graven SN, Browne JV, 2008, Sensory development in the fetus, neonate and infant: introduction and overview, *Newborn and Nursing Reviews* 8(4):169-172

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Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 7 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	--------------

APPENDIX 1: EQUALITY IMPACT ASSESSMENT

Equality Impact Assessment Summary

Name and title:

Policy:

<p>Background</p> <ul style="list-style-type: none"> Who was involved in the Equality Impact Assessment
<p>Neonatal guidelines group</p>
<p>Methodology</p> <ul style="list-style-type: none"> 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?)
<p>The group considered the effect of the policy on the various groups within our neonatal population; and staff employed, including race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation and age.</p>
<p>Key Findings</p> <ul style="list-style-type: none"> Describe the results of the assessment Identify if there is adverse or a potentially adverse impacts for any equalities groups
<p>The policy is inclusive</p>
<p>Conclusion</p> <ul style="list-style-type: none"> Provide a summary of the overall conclusions
<p>No adverse features of the policy identified</p>
<p>Recommendations</p> <ul style="list-style-type: none"> 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
<p>The policy is suitable for implementation.</p>

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 8 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	--------------

APPENDIX 2: CHECKLIST FOR THE REVIEW AND APPROVAL OF DOCUMENTS

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:

Policy (document) Author:

Executive Director:

		Yes/No/ Unsure/ NA	<u>Comments</u>
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)?	Y	
	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?	Y	
	Are local/organisational supporting documents referenced?	Y	
5.	Approval	Y	
	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?	Y	
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		

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 9 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	--------------

		Yes/No/ Unsure/ NA	<u>Comments</u>
	Are there measurable standards or KPIs to support monitoring compliance of the document?	Y	Bliss Standards Developmental care team
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		Date	July 2019
	Dr M. S. Edwards		

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

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 10 of 11
---------------------------------------	---	------------------------------	---------------------------	------------	---------------

Section 1 Organisational Policy	Current Version is held on the Intranet	First ratified: July 2019	Review date: July 2024	Issue 1	Page 11 of 11
---------------------------------------	--	------------------------------	---------------------------	------------	---------------