Frimley Park Hospital NHS
NHS Foundation Trust

Guideline for Recommended Noise Levels on the Neonatal Unit

Normal hearing development is complete by around 24 weeks gestation and the foetus demonstrates a blink-startle response consistently after 28 weeks. Between 27 and 42 weeks the hearing pathways of the central nervous system mature to a nearly adult level. Therefore, the foetus and newborn are exposed to noise whilst normal hearing development is still occurring. Preterm infants are more vulnerable as the auditory system ends up overloaded with stimuli it isn't mature enough to cope with

Exposure to increased noise levels during this period of hearing maturation affects the neonate both in the short and long term. Short term, the neonate's physiological stability and sleep pattern are impaired. These physiologic responses include apnoeas, desaturations, variations in heart rate (either brady- or tachycardia) and blood pressure, and increased intracranial pressure contributing to increased intra-ventricular haemorrhage. Long term issues include an increased risk of hearing loss, neurodevelopmental delay and speech and language difficulties.

Increased noise levels also impact upon staff concentration, performance and communication (particularly when English isn't the individual's first language).

The desired sound level on a neonatal unit is suggested by the AAP to be on average <45dB and transiently <65dB. Bliss set the standard at <50dB.

In order to meet the standards set out in the Bliss Baby Charter, neonatal units are required to monitor and regulate the environment in which babies are being cared for.

Recommendations for Practice

C

Monitoring sound

Sound measuring device present in both nurseries

C
B ✓

Regulating sound

Educate staff and parents

Observe a designated quiet time (12noon- 2pm)

Conduct ward rounds and discussions away from the cotside

Use soft closing bins

Mop floors rather than using a vacuum cleaner

Talk in a soft voice

Set monitor alarms and telephones to minimum safe audible volume

Silence monitor alarms and answer telephones promptly (<30 seconds)

Wear soft shoes

Avoid routinely playing background music

Use newest and quietest equipment available

Close incubator portholes gently and correctly

Minimise opening and closing of incubator portholes

Cover incubators with blankets

Remove noisy equipment, particularly respiratory support, from inside the incubator

Avoid tapping or setting things down on the incubator

References

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5. Brown, G. (2009) NICU noise and the preterm infant. *Neonatal Network,* 28(3):165-173.

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9. Hendricks-Munoz, K.D. And Prendergast, C.C. (2007) Barriers to Provision of Developmental Care in the Neonatal Intensive Care Unit: Neonatal Nursing Perceptions. *American Journal of Perinatology,* 24(2):71-77.

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13. Ranganna, R. and Bustani, P. (2001) Reducing noise on the neonatal unit. *Infant,* 7(1):25-28.

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Devised by Mallory Thorpe 29 May 2014
Ratified 02.02.2015
For review in Feb 2018

Grades of recommendations:

A	Requires at least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation (Evidence levels Ia, Ib)
B	Requires the availability of well controlled clinical studies but no randomised clinical trials on the topic of recommendations (Evidence levels IIa, IIb, III)
C	Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. (Evidence level IV)

Good practice point:

	Recommended best practice based on the clinical experience of the guidelines development group

Equality Impact Assessment Form

Stage One: Initial Screening

Title of Policy:	Neonatal Unit Noise Level Guideline
Name and position of those completing the assessment:	Mallory Thorpe, Neonatal Staff Nurse
Ward/Department:	Neonatal Unit
Contact Ext:	X4038

1. Is this a new or revised policy/function?

New

2. What is the main purpose of the policy/function?

To provide guidance, aiming at reducing the negative impact of excessive noise when nursing preterm infants.

3. How will it be put into practice?

The policy is to be reviewed and ratified by the Paediatric Clinical Governance Committee. All staff will receive teaching as to the content of the policy and following this it will be available on the neonatal unit and on the intranet which is accessible to all staff.

4. Who will be the main stakeholders/users?

Nursing and medical staff as well as visiting families and friends

5. What are the expected benefits/outcomes of the policy/function?

The policy provides staff with underpinning knowledge surrounding their role in reducing unnecessary or excessive noise when caring for preterm infants in the unit, including benefits to patient outcome.

6. Have you already consulted with people about this work? If yes, briefly describe what you did and with whom.

This guideline has been generated in conjunction with evidence based resources listed at the end of the guideline.

7. What data is already available about the impact the policy/function has or could have on equality groups?

All infants in our care would be treated the same regardless of race, sex or religion.

8. Please use the table below to indicate:

a) Where you think that the policy could have a negative impact on any of the equality groups, that is, it could disadvantage them.

b) Where you think the policy could have a positive impact on any of the groups or contribute to promoting equality, equal opportunities or improving relationships within equality groups.

Please note if the impact is likely to be **High, Medium or Low**.

Equality Groups	**Positive Impact: High Medium or Low**	**Negative Impact: High Medium or Low**	**Don't Know**	**Reasons/Evidence**
Age	Low			
Gender	Low			
Sexual Orientation	Low			
Race	Low			
Religion or belief	Low			
Disability	Low			

If negative impact has been identified, then you should proceed to **Stage Two Full Assessment** on page 14.

If the knowledge/information is not available for you to indicate what impact the policy is likely to have, you should plan to fill this knowledge gap and re-screen the policy later.

If no negative impact has been identified during screening, then no further action is required.

Signed: Mallory Thorpe (electronic signature sufficient)	Dated: 29th May 2014
Please send an electronic copy of the Stage One Template to the Secretary of the Equality and Diversity Steering Group dawn.bacon@fph-tr.nhs.uk	