

Noise Mitigation Guidelines for the NICU

The guidelines outlined below are suggestions based on the evidence of interventions that have been shown to decrease noise in the NICU. Variation from the guidelines shall depend on the patient's condition and the clinical judgment of the clinician taking care of the baby. This guideline is a quality assurance document used for the purpose of education and improvement of patient care. This document is not meant to replace an ongoing dialogue with the attending physician and staff regarding patient care.

Abbreviations

dB- Decibel- measurement used to describe the loudness of sound.

Leq- a measure typically used in environmental noise analysis. While not Mathematically correct, the term is often used as the "average" sound level that occurred during measurement

Lmax- The highest A-weighted sound level occurring during a noise event.

Definitions

Noise:

- Undesirable sound.

Sound:

Vibration in a medium

sound has

- Intensity (loudness)
- Frequency (pitch)
- Periodicity
- Duration

Clinical Interventions to Decrease Noise in the NICU:

All Clinical Staff will:

Respond quickly to alarms

Alarms can create spontaneous bursts of noise up to 120 decibels.

Respond quickly to a crying baby

A crying infant in an open crib creates undue stress and noise for the infant, the infants around him or her, staff and family

Conduct conversations away from the bedside

Decreases decibel levels at the bedside

Talk softly and be a role model

Coworkers, peers and parents will follow a good role model.

Suspend alarms when providing interventions that will cause equipment to alarm.

Eliminates unnecessary alarms and decreases sudden loud bursts of noise.

Remove water bubbling in oxygen and ventilator tubing.

Water buildup echoes directly to the infant via the tubing

Cover the isolette with a blanket, quilt or isolette cover 1/4 inch or greater in thickness.

Effectively attenuates sound transmission to the infant

Minimize opening and closing of isolette doors. Depress the latch before closing the isolette porthole..

Decreases added noise transmitted to the infant

Provide low lighting with signs I am sleeping or quiet hour.

Effectively attenuates sound transmission to the infant

Clinical Interventions to Decrease Noise in the NICU:

Implementation of a Quiet hour Program:

Staff awareness program consisting of in-service program, self study, workshop and discussion

- Awareness increases adherence to the program

Quiet hours:

- Establishment of quiet time at 0100-0200 and 1300-1400.
 - Signs will be displayed outside the unit so all will be aware of quiet time prior to entering.
 - Parents will receive verbal instructions from staff about the importance of quiet time
 - Diagnostic test for neonates will be scheduled outside of quiet time when possible
 - Telephone calls into the unit will be minimized during quiet hours
 - Lighting will be decreased during quiet time
 - Other than parents no visitors will be allowed in the NICU during quiet time
 - Need to maximize contact with the parent at all times
 - No nonessential foot traffic will be allowed in the unit during quiet time

Consideration for Future Noise Mitigation:

Visual triggers instead of ringing telephones

Decreases Noise level

Acoustic tiles for the ceiling

Decreases noise level

Clinical Interventions to Decrease Noise in the NICU:

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