Ambient noise

Noise
There is evidence to suggest that high intensity and high frequency noise in the NICU may cause varying degrees of hearing loss. The usual range of noise in the NICU is between 50 and 80 decibels (dB). Levels may rise to 117dB at peak times such as during an admission or an emergency.

The American Academy of Paediatrics recommends 58dB as the maximum noise level in an NICU. Premature infants are particularly susceptible to the affects of noise because they have sensitive cochleae and immature organs of corti. They also have poor self-regulatory control of their behaviour states.

Sick and premature infants’ physiological responses to noise may include decreased oxygen saturation, increased heart and respiratory rates, increased intracranial pressure, decreased respiratory rate and/or apnoea and bradycardia. Continuous or frequent stimulation may impact negatively on long term developmental outcomes with perhaps lower levels of cognitive development.

Infants receiving ototoxic antibiotics and who are exposed to loud noises may have increased risk of damage to the organs of corti.

Aims
- Reduce overall noise levels in the nursery.
- Increase staff awareness of increased noise in the nursery.
- Support and monitor regular ‘quiet time’ in the nursery.

Methods
- Implement a ‘quiet time’ in the nursery twice a day.
- Direct monitor alarms away from infants.
- Carefully close crib portholes and doors.
- Nothing to be placed on incubators except covers which may dampen noise.
- Attend to alarms as soon as possible.
- Drain water frequently from ventilator tubing.
- Reduce number and volume of conversations at the bedside.
- Conduct rounds away from the bedside.
- Decrease loud talking in the nursery.
- Turn telephones down.
- Limited use of the radio.
- Remove lids from garbage and linen bags.
- Transfer infants from incubators making excessive noise and have the incubators repaired.

Note: Intermittent patterned auditory stimulation such as music may lead to increased weight gain and decreased motor activity in stable infants - see Comfort Measures protocol.
Outcomes

- All staff aware of the effects of loud noise on infants.
- The adverse effects of noise is minimised in the infants
- Reduction of noise levels in the nursery.

References


