

Outcomes of Transported and Nontransported Neonates with Grade III and IV Intraventricular Hemorrhage

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Problem

Transported infants experience a higher level of noise than the recommended guidelines. This may impact or precipitate the occurrence of intraventricular hemorrhage (IVH). Upon discovery of this information a study was developed to compare the outcomes for transported and nontransported neonates with intraventricular hemorrhage.

Evidence

Extensive literature review was completed from 1995 to present using CINAHL. This research documents the relationship between transported neonates, noise, and IVH.

Strategy

Examined the evidence related to neonates with IVH who were transported and the noise levels experienced.

Practice Changes

- **Monitor decibel levels during transport annually**
- **Apply incubator covers to isolettes**
- **Educate outlying hospitals regarding premature infant stabilization**
- **Intervene promptly when infant is crying to alleviate noise and stress**

Evaluation

The study occurred over a 29 month period and compared the rates of both grade III and IV IVH between transported and nontransported infants. Data were collected retrospectively from the neonatal database. Approval for the study was obtained from the institutional review board. Decibel levels were measured during the initiation, midpoint and arrival of the transported neonate. The same decibel meter was placed by the infant's ear inside the transport isolette to obtain decibel levels. All decibel levels obtained by trained personnel were in the 90s with an average decibel level of 94.7 during ground transport. The average decibel level obtained from our facility's helicopter during take-off and landing was 105dB, with 98dB the average during flight.

Results

There was a statistical difference found between those infants with grade IV IVH who were transported.

Recommendations

Multiple recommendations for clinical practice are included. Further research is needed to more accurately determine the relationship between noise and emergency transport.