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THE EFFECTS OF CO-SLEEPING ON INFANT BREATHING-IMPLICATIONS

FOR SIDS This study was undertaken to test the hypothesis that co-sleeping may affect an infant's pulmonary physiology. We believe this is the first investigation of mother/infant pairs co-sleeping in a non-laboratory environment.

METHODS: To determine if any physiological pattern changes existed during the studies, we used an Aequitron 9101 Portable Multi Channel Recording and Analyzing System. Airflow, Resp./Abd. Impedance, ECG, HR / PR Trends and SaO₂ were the channels used to collect the child's physiological data.

Eight overnight tracings were done on two healthy infants ages 2-5 months. The mother-child pairs were volunteers. The infants were breastfed and customarily slept with mother in the same bed. The child was recorded in two different sleep settings: one co-sleeping with mother and the other sleeping alone. A technician was present at bedside observing the study and making clinical notes. Each study was done as a two night recording, both starting and ending at approx. the same time. Each study's sleeping arrangements were random. The scorer and the interpreting physician were unaware of which night the pair were sleeping together or separate.

RESULTS: In all 8 studies differences were noted in the sleeping arrangements, specifically the parameters of SaO₂, A_GD, P.B. and quiet heartbeat variability. The differences became progressively less pronounced at 5 mos. than at 2 mos. In the 2 month study there were no O₂ desats noted when baby slept with mother but 132 desats when baby slept alone. The HR variability increased with baby apart from mother on an avg. of 7.0 bpm. The apnea index also increased an avg. of 0.7% with baby away from mother. The ratio of quiet/active sleep time to awake did not vary significantly. Video/observ. analysis of sleeping pairs found mother and child in side lying positions facing each other, gravitating together most of the night.

DISCUSSION: This preliminary study showed mother's presence can affect her sleeping baby's physiology. We feel the results from a home setting gave truer clinical implications. When a baby at risk of SIDS has a higher threshold of arousability from sleep in response to an ALTE it follows that anything that lowers this threshold or regulates its breathing during sleep could reduce SIDS risk. Co-sleeping could do this especially during the "vulnerable period" when protective affects of active sleep diminish yet baby's cardiopulmonary regulators are still immature, mother acts as a type of respiratory pacemaker for the baby at risk.

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