

Effect of prone and supine position on sleep, apneas, and arousal in preterm infants.

Bhat RY, Hannam S, Pressler R, Rafferty GF, Peacock JL, Greenough A. Pediatrics. 2006 Jul; 118(1):101-7.

Objective: Prematurely born compared with term born infants are at increased risk of sudden infant death syndrome, particularly if slept prone. The purpose of this work was to test the hypothesis that preterm infants with or without bronchopulmonary dysplasia being prepared for neonatal unit discharge would sleep longer and have less arousals and more central apneas in the prone position.

Methods: This was a prospective observational study in a tertiary NICU. Twenty-four infants (14 with bronchopulmonary dysplasia) with a median gestational age of 27 weeks were studied at a median postconceptional age of 37 weeks. Video polysomnographic recordings of 2-channel electroencephalogram, 2-channel electro-oculogram, nasal airflow, chest and abdominal wall movements, limb movements, electrocardiogram, and oxygen saturation were made in the supine and prone positions, each position maintained for 3 hours. The duration of sleep, sleep efficiency (total sleep time/total recording time), and number and type of apneas, arousals, and awakenings were recorded.

Results: Overall, in the prone position, infants slept longer, had greater sleep efficiency (89.5% vs 72.5%), and had more central apneas (median: 5.6 vs 2.2), but fewer obstructive apneas (0.5 vs 0.9). The infants had more awakenings (9.7 vs 3.5) and arousals per hour (13.6 vs 9.0) when supine. There were similar findings in the bronchopulmonary dysplasia infants.

Conclusions: Very prematurely born infants studied before neonatal unit discharge sleep more efficiently with fewer arousals and more central apneas in the prone position, emphasizing the importance of recommending supine sleeping after neonatal unit discharge for prematurely born infants.

For Full-text: <http://www.pediatrics.org>