

**NEONATAL VENTILATION: EVIDENCE BASED OR TECHNOLOGICAL CONUNDRUM**

**P. Mallya<sup>1</sup>, S. Gupta<sup>1</sup>, C. Harikumar<sup>1</sup>, S. Sinha<sup>2</sup>**

*<sup>1</sup>Neonatology, University Hospital of North Tees, Stockton, <sup>2</sup>Neonatology, James Cook University Hospital, Middlesbrough, UK*

**Background:** Meta analyses on neonatal mechanical ventilation suggested no difference between conventional and patient triggered ventilation (PTV) in preterm neonates. Newer forms of respiratory support with perceived advantages continue to entice Neonatologists.

**Objective:** To ascertain the current trends in respiratory management of the very preterm infant (< 28 weeks) in level 3 neonatal units.

**Methods:** A structured questionnaire was designed and a senior staff interviewed in all level 3 neonatal units in England telephonically by one interviewer in September 2010.

**Results:** Of the 54 units identified from BAPM database 98% responded. Pressure controlled ventilation was the primary mode of mechanical ventilation in 69.8% units, volume targeted ventilation in 24.5% and HFOV used in 5.7% units. SIMV or SIMV with Pressure Support (PSV) was the most preferred method in 83.1% units for weaning off mechanical ventilation. PSV was used in 50.9% units with 7.5% units using more than 50% PSV. Tidal volume was targeted in 69.8% units with 54.7% aiming a tidal volume of 4-7mls/kg. High flow nasal cannula oxygen was used in 47.2% units along with CPAP or BiPAP. 28.3% units administered Caffeine in the acute phase of RDS; the rest administered it when the infant was ready for extubation. Only 7.6% used an objective criterion to assess readiness for extubation.

**Conclusions:** Contrary to the current evidence, neonatal ventilation practices have evolved using patient triggered modes of ventilation. Further trials are warranted to improve generalisability of evidence into clinical practice.