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Title: Lung protective ventilator settings for lung transplantation? The Harefield experience

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Body: Lung protective ventilation strategies employing low tidal volumes have been advocated for ARDS and lung transplant donors. There is a paucity of clinical information regarding current ventilation practices in the recipients following lung transplantation (LTx). The aim of the study was to review early post-operative ventilation strategies and to explore the impact of high tidal volume ventilation on patient outcomes. Bilateral sequential single lung transplants (n=62) performed in 2010-11 were retrospectively analysed for ventilation strategies and clinical and physiological outcomes. The majority of patients (>60%) received pressure-controlled ventilation during the first 6 hours post-transplantation. The distribution of resultant tidal volumes and associated median peak inspiratory pressures are shown below.

Median PEEP values were 6 cmH_20 [IQR:6-8]. Low tidal volume was mainly employed in patients requiring ECMO. Patients stratified into low (< 6ml/kg, n=8), medium (6-8 ml/kg, n=25) and high (>8 ml/kg, n=29) tidal volume groups exhibited similar clinical (ventilation duration, ICU stay) and physiological (P/F ratios, inflammatory markers) outcomes, and comparable requirement for vasoactive support. Our ventilation strategies employed protective PEEP and pressure limitation but frequently resulted in traditionally high tidal volumes. However, clinical and physiological outcomes were not different with higher tidal volumes.