Abstract Group: 2.1. Acute Critical Care

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Title: Time to adjust to changes in ventilation settings varies significantly between different T-piece resuscitators, self-inflating bags and manometer equipped self-inflating bags

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Body: Background: Resuscitation guidelines give no preference over use of self-inflating bags (SIB) or T-piece resuscitators (TPR) for manual neonatal ventilation. We speculated devices would differ significantly regarding time required to adjust to changed ventilation settings. Methods: Laboratory study. Time to adjust from baseline PIP (20 and 25 cmH2O) to target PIP (25 and 40 cmH2O), ability to adhere to predefined ventilation settings (PIP, PEEP and RR) and the inter-operator variability were assessed for a SIB without manometer, SIB with manometer (SIBM), and two TPRs. Results: Adjustment time was significantly longer with TPRs, compared to SIB and SIBM. The SIBM and TPRs were < 5% (median) off target PIP, the SIB was 14% off target PIP. Significant inter-operator variability (IQR: 71%) was seen with SIBs. Conclusions: PIP adjustment takes longer with TPRs, compared to SIB/SIBM. TPRs and SIBM allow satisfactory adherence to ventilation parameters. SIBs should only be used with manometer attached.