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## Respiratory Abstracts

### APRV USING THE BIVENT MODE ON THE SERVO i VENTILATOR

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**INTRODUCTION:** Airway Pressure Release Ventilation (APRV, Drager) has gained over the past several years as a mode of mechanical ventilation. APRV, a style of I ventilation, is most commonly used to support hypoxemic respiratory failure patient of published information regarding APRV references the Drager Evita and the Purit (BiLevel) ventilators. The MAQUET (formerly SIEMENS) Servo i has the capabilities APRV using BiVent mode. We compared our use of APRV in the BiVent mode to the information.

**METHODS:** The Servo i BiVent mode allows the practitioner to set independent in: High) and expiratory (PEEP) pressure settings. Time spent in each phase is control inspiratory (T High) and expiratory (T PEEP) time. These set times determine the I frequency of pressure releases. In the severely hypoxemic patient, the T High and adjusted to produce an inverse ratio that results in a higher mean airway pressure of the Inverse ratio is to inflate the lungs to a set peak pressure (P High) and peric the pressure to a set PEEP, for a short time (T Peep), in order to allow for exhalati trapping air and preventing alveolar derecruitment. A randomly selected group of I acutely hypoxemic respiratory failure patients (n=11) were placed on the Servo i I mode with a mean P High of 26 cmH<sub>2</sub>O (24-28), set PEEP 0, mean T High of 4.5 s T PEEP of 0.4 s (0.2-0.7). The percent of peak expiratory flow (%PEF) where T Hig monitored and recorded every two hours. Manipulations in T PEEP were made in o a %PEF between 25% and 75% in an attempt to keep the PaO<sub>2</sub>/FIO<sub>2</sub> >300.

**RESULTS:** The mean P High of 27 and mean T PEEP of 0.35 s resulted in a mean I These settings resulted in an average MAP of 25 cmH<sub>2</sub>O. We applied an average P of 3 cmH<sub>2</sub>O to achieve an average total respiratory rate of 22 breaths/min.

**DISCUSSION:** Upon initiating the BiVent mode on the Servo i, we found differenc reported APRV settings on a Drager Evita ventilator and the needed BiVent setting We analyzed a random group of patients on the Maquet Servo i BiVent mode in the intensive care units. The demographic data between the two groups comparing ag patients with acute lung injury or acute respiratory distress syndrome, and the nu extrapulmonary organ systems in failure, were all found to be similar. In order to I adequate oxygenation, the Servo i requires a shorter T PEEP (0.4 s), compared to Drager. We maintained a set Peep of 0. We used a low level of PS (3 cmH<sub>2</sub>O) abo moderate T High (4.5 s) to encourage spontaneous breathing. With all patients, w High to maintain adequate oxygenation and ventilation.

**CONCLUSIONS:** APRV using the Servo i BiVent mode required shorter T PEEP. Bi settings to be monitored and adjusted to achieve adequate P/F ratios and success ventilation requirements for hypoxic respiratory failure patients.

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