The purpose of this study was to evaluate the displayed VTi and VTe in the Dräger Evita V500 (V500). The ventilator displays the inspiratory tidal volume (VTi) and expiratory tidal volume (VTe) with a ventilator tidal volume (VT) setting. The data was recorded at V500 NTPD conditions, as well as time and temperature. The V500 settings were VC-AC, VT 400 mL, RR 15 BPM, Flowrate 60 LPM, PEEP 5 cm H₂O; Rp 20 Pneuflo Resistor. Two tidal volume settings were used, 400 mL and 600 mL, following the procedure described above. These methods were performed with Leakage Compensation off and then on. Conclusions: The Dräger V500 VTe was consistently less than the VTi at each tidal volume setting. The ventilator displays this difference as a leak; however, the discrepancy between the VTi and VTe is expected; however, the ventilator displays the difference as a leak. The Dräger V500 VTe was consistently less than the VTi. This pattern continued with Leakage Compensation on. The difference becomes larger with each increase in tidal volumes. This pattern is seen in the graphs above. When examining the Dräger V500 waveforms with Leakage Compensation on, the difference is still present, and in most cases it is increased, along with a displayed percent leak of up to 16%. This is seen in the table below. The V500's displayed VTe was consistently less than the displayed VTi at each tidal volume setting, however the difference between the VTi and VTe measured by the TSI was negligible. The ventilator displays this difference as a leak; however, the discrepancy between the VTi and VTe is expected; however, the ventilator displays the difference as a leak. The V500's displayed VTe was consistently less than the displayed VTi.