

INFLUENCE OF VENTILATORY MODE ON RESPIRATION PARAMETERS - INVESTIGATION ON VIRTUAL LUNGS

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Abstract

In the paper influence of different artificial ventilation modes (pressure-controlled, volume-controlled with constant and with decelerating flow, and power-controlled, i.e. adaptive) on chosen respiratory parameters (peak and mean pressure in lungs, peak gas flow, distribution of lungs ventilation) were analyzed in cases of permanent and sudden obstruction. The comparison has proved that the adaptive mode generally has some advantages over routinely used ventilatory modes, if influence on all the respiratory parameters together is taken into account: all the parameters achieve moderate values for the adaptive mode, while at least one parameter achieves a big value for each other mode. Thus, the adaptive mode causes the smallest total health hazard.

Keywords: artificial ventilation, lungs, respirator, ventilatory support, virtual reality