AEROSOL DOSE MATTERS IN THE EMERGENCY DEPARTMENT: A COMPARISON OF IMPACT OF BRONCHODILATOR ADMINISTRATION WITH TWO NEBULIZER SYSTEMS

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1 Introduction
Clinical outcome studies comparing aerosol devices in patients in respiratory distress in the Emergency Department (ED) are limited. The vibrating mesh nebulizer (VMN) with adapter (Aerogen Ultra, Aerogen Ltd., Ireland) provides > 4-fold drug delivery to lungs compared to jet nebulizer (JN).

2 Methods
The Aerogen Ultra was implemented for 30 days during the evaluation period for all patients receiving inhaled bronchodilator therapy.

3 Results
Patient data was extracted from Sept (879 JN) and Oct (715 VMN). In Oct treated population experienced a reduction in admissions from the ED associated with an increase in discharges to home compared to Sept., Patients receiving bronchodilators with the VMN with adapter were 1.5 times more likely to be discharged than the JN group (OR=1.5, p < .001), respectively.

4 Conclusions
The VMN with adapter was associated with fewer admissions to the hospital from the ED with a substantial reduction in salbutamol dose required than the JN. The device type was a strong predictor of discharge, disposition and total amount of drug, regardless of age or diagnosis. Randomized controlled studies are needed to corroborate these findings.

References

Disclosures: Ms. Dailey is a Medical Science Liaison for Aerogen Ltd. Aerogen Ltd provided the device for the project.