



## *Comparison of drug delivery from conventional versus “Venturi” nebulizers*

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### ◆ *Find This Study*

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### ◆ *The Study*

Investigates the effect of age on inhaled dose from a conventional jet nebulizer (Acorn®), compared to two Venturi nebulizers (Ventstream® and Pari LC®)

### ◆ *The Results*

Venturi nebulizers enhance drug delivery during inhalation, reducing treatment times and drug wastage. Aerosol particle size using the Ventstream® was lower than the other nebulizer systems. The mass median aerodynamic diameters (MMADs) produced by the nebulizers used in this study at a flow of 6.0 LPM showed the Ventstream® at 3.57 µm, significantly lower than that of the other nebulizers.

### ◆ *What’s New*

Filters were attached to the different nebulizer systems, containing salbutamol, and 18 children with cystic fibrosis (3-16 years) inhaled through these devices. The quantity of drug collected on the filter was assessed using ultraviolet spectrophotometry. The particle size of aerosol was measured using laser diffraction.

### ◆ *Note*

There was no significant difference between nebulizers in the amount of retained in the nebulizer bowl. Also, there was no significant difference in the total nebulization times between the devices and no relationship between age and nebulization time for any of the devices tested.

### ◆ *Bottom Line*

Dose inhaled, when corrected for body weight, is greatest in the youngest patients.

The Venturi nebulizers can increase the dose of drug inhaled by children as young as 3 years of age.

The Venturi nebulizer, Ventstream®, with the smallest produced particle size, appears to be the most efficient of the devices assessed.