



## Similar Lung and Systemic Delivery with Volumatic<sup>†</sup> and AeroChamber Plus<sup>\*</sup> Valved Holding Chambers when attached to Ventolin Evohaler<sup>†</sup>

In a recent study, researchers used both in vivo and in vitro measures to compare the Ventolin Evohaler<sup>†</sup> MDI alone and when used with the Volumatic<sup>†</sup> and AeroChamber Plus<sup>\*</sup> Valved Holding Chambers (VHCs).<sup>1</sup>

### *In Vivo* Results

Using a urinary pharmacokinetic method, the amount of salbutamol excreted in the first 30 minutes was used to identify the relative lung bioavailability with results of 5.7µg (MDI alone), 16.4µg (Volumatic<sup>†</sup>) and 14.8µg (**AeroChamber Plus<sup>\*</sup>** VHC).

The cumulative amount of salbutamol excreted over the next 24 hours determined the relative systemic bioavailability. The MDI alone (100.2µg) had a larger relative bioavailability to the body compared with the Volumatic<sup>†</sup> (97.3) or **AeroChamber Plus<sup>\*</sup>** VHC (84.6µg) due to the larger proportion of emitted dose that would have been swallowed.

### *In Vitro* Results

The values for the mean fine particle dose of two 100 µg doses emitted from MDI, Volumatic<sup>†</sup> and AeroChamber Plus<sup>\*</sup> VHC were 83.0µg, 83.6µg and 73.6µg respectively.

The authors concluded that the Ventolin Evohaler<sup>†</sup> can be used with either the Volumatic<sup>†</sup> or **AeroChamber Plus<sup>\*</sup>** VHC without any difference in the relative lung and systemic delivery. The small volume (149ml) **AeroChamber Plus<sup>\*</sup>** VHC provides the additional advantage of being an ideal size for convenience and portability.

<sup>1</sup> Mazhar SHR, Chrystyn H. Salbutamol relative lung and systemic bioavailability of large and small spacers. *Journal of Pharmacy and Pharmacology* 2008, 60: 1609-1613.

The World Allergy Organization recently issued its State of the World Allergy Report 2008: Allergy and Chronic Respiratory Diseases. The report documents the findings of nations and organizations around the world in an effort to promote the science of allergy and clinical immunology and advance the exchange of information.