

AeroChamber Plus* Flow-Vu* Spacers for pressurised metered-dose inhalers

Information for health professionals

What is a spacer?

Spacers attach to the mouthpiece of a pressurised metered-dose inhaler (pMDI), creating a chamber where the medication aerosol is temporarily held before being inhaled. This allows the patient to inhale the medication at their own pace rather than having to synchronise inhalation with actuation.

Spacers containing one-way valves prevent exhalation into the chamber, improve aerosol retention within the spacer and optimise medicine delivery.

Spacers help:

- optimise aerosol delivery
- enhance lung deposition
- reduce local and systemic side effects by minimising oropharyngeal deposition of medication.

Use of a pMDI with a spacer is at least as effective and safe as use of a nebuliser.

Every patient prescribed a pMDI should know how to use a spacer and use it when needed or as directed. Spacers should be selected individually to fit the pMDI.



Small mask



Medium mask



Youth mouthpiece



Adult mouthpiece



Adult small mask



Adult large mask

Image 1. AeroChamber Plus* FLOW-Vu* spacer full product range.

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Why use a spacer

pMDIs are widely used for delivering inhaled medications for asthma and chronic obstructive pulmonary disease (COPD). The clinical effectiveness of pMDIs can be significantly improved by using a spacer.¹

Only about 1 in 10 patients can correctly perform all the steps in using a pMDI.² Three-quarters of patients using a pMDI make at least one error when using their inhaler.³ Even with optimal technique, pMDIs only deliver about 20% of the emitted dose to the lower airways, leaving 80% in the oropharyngeal area.⁴

Failure to coordinate inhalation with actuation of the inhaler is one of the most common errors in using a pMDI.⁵ Actuation before inhalation is associated with uncontrolled asthma.⁵ Spacers reduce the need for co-ordination of inhalation and actuation of the inhaler.

The space between the pMDI and the patient's mouth allows for a reduction of aerosol velocity and particle size through propellant evaporation and particle impaction on the spacer wall.¹ Together, this leads to an increase in the proportion of fine particles delivered to the lungs, a decrease in large particle deposition in the mouth and throat, and reduction of associated side effects such as throat irritation, dysphonia, and oral candidiasis that are common with use of inhaled corticosteroid (ICS)-containing pMDIs.¹

Benefits of a spacer

Spacers are designed to increase delivery of aerosol medications to the lungs while reducing oropharyngeal deposition. A spacer can improve medication deposition to lower airways by up to 50%.⁶ Improved drug delivery for ICS via a spacer leads to better asthma control, leading to fewer exacerbations and hospital visits, reduced need for short-acting beta₂ agonist (SABA) reliever medications, and consequently an additional environmental benefit.⁷

Optimal use of a spacer

pMDIs in suspension should be shaken 4 to 5 times before use. The pMDI should be shaken again for a second dose.

Only one dose should be actuated into the spacer before each inhalation. Multiple actuations into a spacer creates turbulence and significantly reduces the respirable fraction of the aerosol.⁸

Inhalation should start as soon as possible after actuation. A delay of more than 10 seconds between pMDI actuation and onset of inhalation significantly reduces the respirable particle fraction.⁸ Anti-static spacers partially overcome this problem.

A slow inhalation (30L/min) over 2 to 3 seconds in a child and 3 to 5 seconds in an adult followed by a breath-hold of 5 to 10 seconds is recommended as it achieves significantly greater lung deposition than rapid inhalation or a short breath-hold.⁹ Some spacers incorporate a whistle that sounds if inspiratory flow is too fast.

Young children may be unable to take a slow inhalation or maintain a breath-hold, so tidal breathing may be appropriate. Tidal breathing involves breathing in and out normally for 3 or 4 breaths. The pMDI should be actuated at the beginning of a tidal inhalation. Spacers with facemasks are useful in infants, young children, and some older adults. A good seal is vital for effective drug delivery via a facemask. A flexible facemask that conforms to the user's face to prevent leakage is optimal.

Some spacers include a visual indicator to confirm proper mask seal and count patient breaths.

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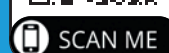
For more information about AeroChamber
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USING A SPACER

How-to-video,
including
instructional
checklist of steps.



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