

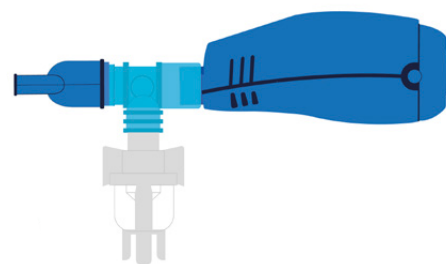
Acapella™ Respiratory Therapy System Nebulizer Placement

This white paper was developed based on a review of the articles referenced below.



The treatment of chronic lung diseases typically includes the use of a nebulizer to deliver medication. Aerosolized drugs can include antibiotics, corticosteroids, and saline, and these medications can help with, among other things, secretion hydration. However, the use of a nebulizer can also add time to daily therapies. Therefore, combining a nebulizer with the Acapella respiratory therapy system can reduce the total time of therapy and may help with secretion removal due to hydration.¹ Clinicians now have the option to place the nebulizer between the mouthpiece and the device. Aerosol lung deposition with the placement of the nebulizer in this position has been shown to be similar to a nebulizer alone.² This new placement may improve confidence that patients are receiving the appropriate dosage of nebulized medication and still obtaining the benefits of oscillatory positive expiratory pressure (PEP).

The Acapella respiratory therapy system combines high-frequency oscillations and PEP into a single treatment. Exhaled air is opposed as it passes through the device, resulting in PEP. Additionally, this expired flow is intermittently occluded by a moving magnetic counterweight, producing air flow oscillations. The use of a magnetic counterweight allows for non-position dependent usage of the device and still allows for a patient-specific therapy by adjusting the magnet positioning. There are 20 resistance settings on the Acapella respiratory therapy system, allowing for optimization of frequency, oscillation amplitude, and mean pressure. The Acapella respiratory therapy system family of products—Acapella Choice™ blue, DH (green) and DM (blue)—has been shown to reach a range of PEP (3–23 cm H₂O) and frequency of oscillation (8.5–21 Hz).^{2,3,4,5,6,7}



Proximal placement of a nebulizer on the Acapella respiratory therapy system. Items shown above are standard use for our device and not sold by ICU Medical.

References

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