Nebulizers

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Health Equity Considerations

Health equity is the highest level of health for all individuals; health inequity is the avoidable difference in health status or distribution of health resources due to the social conditions in which individuals are born, grow, live, work, and age.

Social determinants of health are the conditions in the environment that affect a wide range of health, functioning, and quality of life outcomes and risks. Examples include the following: safe housing, transportation, and neighborhoods; racism, discrimination, and violence; education, job opportunities, and income; access to nutritious foods and physical activity opportunities; access to clean air and water; and language and literacy skills.

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Criteria

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Small Volume Nebulizers (HCPCS E0570)

A small volume nebulizer and related accessories are considered medically necessary to administer a nebulized medication.

Standard Large Volume Nebulizers (HCPCS E0572, E0565, E0585)

A standard large volume nebulizer and related accessories are considered medically necessary to deliver humidity to an individual with thick, tenacious secretions who has **any** of the following conditions:

- bronchiectasis
- cystic fibrosis (CF)
- tracheostomy
- tracheobronchial stent
- administration of pentamidine in individuals with HIV, pneumocyctosis, or post-organ transplantation with complications (HCPCS E0565 or E0572 covered)

Ultrasonic Small Volume Nebulizer (HCPCS E0574)

An ultrasonic small volume nebulizer and related accessories are considered medically necessary for delivery of treprostinil in individuals with pulmonary hypertension.

Ultrasonic Large Volume Nebulizer (HCPCS E0575)

An **ultrasonic large volume nebulizer** is considered medically necessary to deliver humidity to an individual with thick, tenacious secretions when there is documentation of **both** of the following:

- The use of a standard large volume nebulizer has failed to control the individual's medical condition(s).
- The individual has **any** of the following medical condition(s):
  - bronchiectasis
  - cystic fibrosis (CF)
  - tracheostomy
  - tracheobronchial stent
  - administration of pentamidine in members with HIV, pneumocyctosis, or post-organ transplantation with complications

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Controlled Dose Inhalation Drug Delivery System (HCPCS K0730)

A controlled dose inhalation drug delivery system and related accessories are considered medically necessary for delivery of iloprost for individuals with pulmonary hypertension.

Not Medically Necessary

A pre-filled disposable large volume nebulizer (HCPCS A7008) is considered a convenience item.

Accessories

Accessories are separately payable if the related aerosol compressor and the individual accessories are reasonable and necessary. The following table lists the compressor/generator and the related accessories.

Compressor/Generator	Related Accessories
E0570	A7003, A7004, A7005, A7006, A7013, A7015, A7525
E0565	A4619, A7006, A7007, A7010, A7012, A7013, A7014, A7015, A7017, A7525, E1372
E0572	A7006, A7007, A7014, A7017
E0585	A4619, A7006, A7010, A7012, A7013, A7014, A7015, A7525
E0574	A7013, A7014, A7016
K0730	A7005

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Evidence Discussion

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Nebulizers are electronically-powered machines that turn liquid medication into a mist[1] using either compressed gas or high-frequency vibrations. Advantages of aerosolized medication include a potentially faster onset of the medication's intended effects and reduced adverse side effects.[2] Nebulizers may administer medication through a mouthpiece or a face mask, with the latter recommended for those who are unable to use a mouthpiece.[3]

There are certain medications that should be delivered only by an approved nebulizer. Some of these medications are administered through bronchodilators, which increase airflow to the lungs and may be useful in treating chronic obstructive pulmonary disease (COPD).[4] A study of 26 individuals with COPD found that using a bronchodilator produced the same effect as a high-flow nasal cannula when using a flow of 35 liters per minute.[5]

Prescription of a nebulizer for home use is not typically medically necessary for patients with asthma or COPD due to the success of pressurized metered-dose inhalers (pMDIs) and dry powder inhalers (DPIs) for administering bronchodilator medications. However, some patients have a better response to a nebulizer. For individuals with severe asthma, these guidelines suggest the delivery of medication by nebulizer rather than PMDIs.

Studies have not shown a significant difference between the type of nebulizer and treatment efficacy;[6] when used appropriately, each device can work equally well.

1 Mogayzel et al. Cystic fibrosis pulmonary guidelines. Chronic medications for maintenance of lung health. *Am J Respir Crit Care Med* 2013. 187(7):680-9.

2 Dolovich MB, Ahrens RC, Hess DR, Anderson P, Dhand R, Rau JL, Smaldone GC, Guyatt G; *American College of Chest Physicians; American College of Asthma, Allergy, and Immunology.* Device selection and outcomes of aerosol therapy: Evidence-based guidelines: American College of Chest Physicians/American College of Asthma, Allergy, and Immunology. Chest. 2005 Jan;127(1):335-71.

3 Global Initiative for Asthma (GINA), Global Strategy for Asthma Management and Prevention. 2018 [cited Apr 15 2018]).

4 Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease: Global Initiative for Chronic Obstructive Pulmonary Disease. Bethesda; 2019.

5 Bräunlich J, Wirtz H. Oral Versus Nasal High-Flow Bronchodilator Inhalation in Chronic Obstructive Pulmonary Disease. *J Aerosol Med Pulm Drug Deliv*. 2018 Aug;31(4):248-254. doi: 10.1089/jamp.2017.1432. Epub 2017 Dec 20. PMID: 29261402.

6 Global Initiative for Chronic Obstructive Lung Disease (GOLD), Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease; 2019

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Codes

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HCPCS Codes	Description
A7008	Large volume nebulizer, disposable, prefilled, used with aerosol compressor
E0565	Compressor, air power source for equipment which is not self-contained or cylinder driven
E0570	Nebulizer, with compressor
E0572	Aerosol compressor, adjustment pressure, light dty for intermittent use
E0574	Ultrasonic/electronic generator with small volume nebulizer
E0575	Nebulizer; ultrasonic, large volume
E0585	Nebulizer, with compressor and heater
K0730	Controlled dose inhalation drug delivery system

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References

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15. L33795 - Mechanical In-exsufflation Devices https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=33795&ver=29
16. A52466 - Nebulizers - Policy Article https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=52466&ver=50
17. L33370 - Nebulizers https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=33370&ver=42
18. L33786 - Intrapulmonary Percussive Ventilation System https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=33786&ver=16
19. L33800 - Respiratory Assist Devices https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=33800&ver=26

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