



## THE WHAT, WHY, WHERE and HOW of HOME NEBULIZERS

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### WHAT IS A NEBULIZER?

- A nebulizer is a small inexpensive home medical device used by someone who has a new respiratory illness (such as viral or bacterial pneumonia), or someone who has an ongoing lung condition, such as asthma, COPD, pulmonary fibrosis, and others.
- A nebulizer turns liquid medicine into a very fine mist that a person can inhale through a face mask or mouthpiece. This means medication for treatment can be directly and quickly distributed to the lungs.
- The idea of inhaling medicine to improve breathing goes back to ancient times, when steam and inhalation rooms were used with oils like eucalyptus and others. Today's equipment just makes it easier and faster to get the medicine into mist form to breath in and improve lung function.
- Physicians and health professionals treating COVID patients at home use nebulization of the anti-inflammatory medicine, budesonide, as an essential part of a successful home treatment plan. When used properly as your doctor directs, and in combination with other prescription medicines and key over the counter nutraceuticals, studies show up to a 90% a drop in risk of being hospitalized due to COVID-19. [2]

### WHO USES A NEBULIZER?

Nebulizers are often used by people with ongoing conditions affecting your ease of breathing, such as:

- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)
- Pulmonary Fibrosis
- Bronchiectasis
- Cystic Fibrosis

Doctors also may prescribe a nebulizer for people experiencing acute viral and bacterial lung diseases, such as bronchitis, pneumonia, COVID-19, and others.



## WHAT DO NEBULIZERS LOOK LIKE?

Types of nebulizers:

The tabletop versions are a little larger yet more durable. Hand-held nebulizers are smaller, easily portable for travelers, and more convenient.



## PROPER NEBULIZER USE:

Each nebulizer operates slightly differently. It is important to read the instructions for the device that you have purchased to answer questions. There are also video resources available on YouTube to help with general information on nebulizer use. Each manufacturer's website may have specific videos on their devices. *\* Please speak with the doctor or call the manufacturer with any questions or concerns about the device.*

**A nebulizer is very easy to use, with only a few basic steps:**

1. Wash your hands to avoid contaminating the nebulizer.
2. Add the medicine to the medicine cup, according to the doctor's prescription on the medicine label.
3. Assemble the top piece, tubing, mask, and mouthpiece.
4. Attach the tubing to the machine, according to the instructions.
5. Turn the nebulizer ON. Some machines must be plugged into electricity, others use battery power.
6. While using the nebulizer, hold the mouthpiece and medicine cup upright to help deliver all the medication.
7. Take slow, deep breaths through the mouthpiece and inhale all the medicine. When you are finished, wash the nebulizer cup at the end of treatment with either soap and water, or vinegar and water for cleaning.



ADDITIONAL VIDEO RESOURCES for NEBULIZER USE:

<https://youtu.be/pEKFKZiLNaA>

<https://youtu.be/U1aU0UbQUYQ>

<https://youtu.be/NwGLQYh8I58>

## WHAT MEDICATIONS OR SOLUTIONS CAN BE USED IN THE NEBULIZER?

There are several types of medication that a person can use with a nebulizer:

- *Bronchodilators, Anticholinergics, Beta-antagonists and Corticosteroids*: These are drugs that help open the airways and make breathing easier. Some of these medications include albuterol, budesonide, Atrovent, Performist, and Ipratropium.
- **NOTE: nebulized budesonide plays a KEY ROLE in treating COVID-19 disease and should be a first-line EARLY treatment for reducing the risk of hospitalization of disease complications associated with SARS-CoV 2 infection.**
- *Sterile saline solution*: A nebulizer can deliver sterile saline to help open the airways and thin secretions. This may loosen and make it easier to cough up mucus in the lungs. A more concentrated version, called *hypertonic saline*, may be prescribed by your doctor for even stronger effect to break up mucus plugs that reduce oxygen delivery and cause shortness of breath.
- *Antibiotics*: A nebulizer can deliver some types of antibiotics straight into the lungs or respiratory tract when someone has a severe respiratory infection.
- *Dilute hydrogen peroxide (HP)*: a solution of dilute hydrogen peroxide can be used as a preventive measure *and* treatment for viral illness. The solution used for this type of nebulization should never be painful or uncomfortable when used.
  - *How to make dilute hydrogen peroxide solution for nebulizer use*: [1]
    - Mix 9 drops of 3% HP with 1 tsp of *sterile* normal saline solution, available at pharmacies.
    - Always use *sterile* normal saline solution to prepare hydrogen peroxide solution for nebulization.



## WHERE CAN I BUY A NEBULIZER?

Nebulizers can be purchased at a variety of local big chain pharmacies as well as local smaller independent pharmacies. Stores like Target, Walmart, medical supply stores and suppliers who sell on Amazon often have several options for home nebulizers as well. Some pharmacies may require a physician's order to purchase a nebulizer. Here are links to 2 different nebulizing machines that can be purchased on Amazon:

Tabletop:

[https://www.amazon.com/PortableHandheld-Machine-Adults-Daily/dp/B08SL3KZFC/ref=sr\\_1\\_40?keywords=tabletop+nebulizer&qid=1638735628&sr=8-40](https://www.amazon.com/PortableHandheld-Machine-Adults-Daily/dp/B08SL3KZFC/ref=sr_1_40?keywords=tabletop+nebulizer&qid=1638735628&sr=8-40)

Handheld:

[https://www.amazon.com/PortableNebuliser-Handheld-Nebulizador-Breathing/dp/B0881M5H1L/ref=sr\\_1\\_30?keywords=tabletop+nebulizer&qid=1638735694&sr=8-30](https://www.amazon.com/PortableNebuliser-Handheld-Nebulizador-Breathing/dp/B0881M5H1L/ref=sr_1_30?keywords=tabletop+nebulizer&qid=1638735694&sr=8-30)

[1] Levy, Thomas E 2021, "Hydrogen Peroxide (HP) Nebulization for Respiratory Virus Prevention and Treatment." 6 Oct 2021

[2] Ramakrishnan S, Nicolau DV, Langford B, Mahdi M, Jeffers H, Mwasuku C, et al., Univ. of Oxford, Inhaled budesonide in the treatment of early COVID-19 illness: a randomised controlled trial. MedRxiv preprint. 2021 Jan 8. <https://www.medrxiv.org/content/10.1101/2021.02.04.21251134v1> [Full Text PDF]