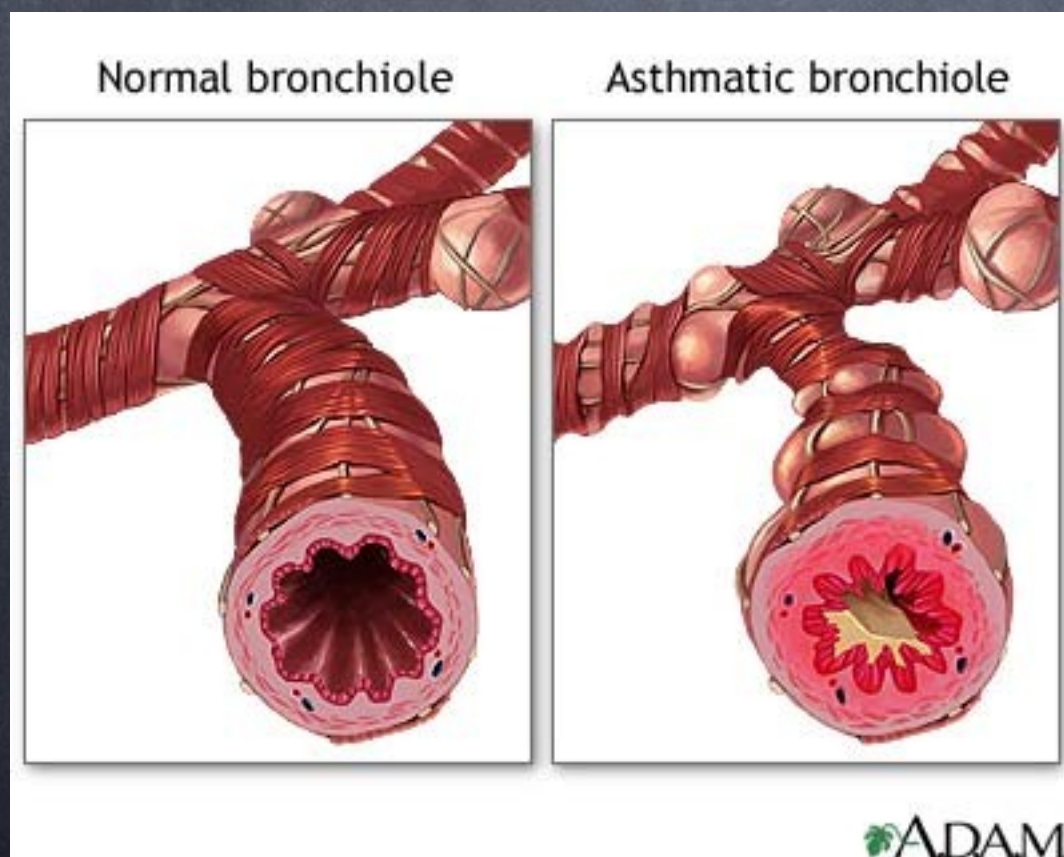


Perform and therapeutic benefit of Using a Nebuliser / Inhaler correctly



Devangna Bhatia

What is a nebuliser?

A nebuliser is a powerful drug delivery system. It converts liquid into aerosol droplets suitable for inhalation. It should only be used if recommended by the doctor, and if you would benefit from this form of treatment and even then, only under careful medical supervision.

Their use is declining but they are still preferred in certain clinical situations and are preferred by some patients.



There are three parts to a nebuliser:

1. **FACE MASK OR MOUTHPIECE:** choose the best fitting size
2. **NEBULISER CHAMBER:** a small chamber in which a liquid drug is turned into a fine 'mist' or aerosol, which can be inhaled.
3. **COMPRESSOR:** The power source responsible for pressurising the air to produce the aerosol.

Oxygen, compressed air or ultrasonic power can be used to break up the solution.

Indications

Emergency and home treatment of many respiratory diseases
Management of exacerbations and long-term treatment of COPD
Management of cystic fibrosis
Bronchiectasis (a condition where there is scarring and distortion of the bronchial tubes, therefore reduced ability to clear mucus)
HIV/AIDS
Symptomatic relief in palliative care

Medications used in nebulisers

- In people with asthma or COPD - **salbutamol, terbutaline or ipratropium** at high doses. Same effect from 4-6 puffs from an inhaler with a large volume spacer (helps the inhaler get more medicine into your lungs).
- **Saline** helps cough-up sticky phlegm (physiotherapist in the hospital)
- **Steroids** (usually **budesonide**) – occasionally used to deliver high doses of steroids
- **Antibiotics** – people with bronchiectasis - to deliver antibiotics
- **Dornase alpha** – sometimes helps to liquefy phlegm in cystic fibrosis
- **Morphine and similar drugs** – may be given as part of terminal care when breathlessness cannot be treated in any other way.

- How to load the medication:

- <http://www.youtube.com/watch?v=XQAujJARy8U>

- How to use the nebuliser:

- <http://www.youtube.com/watch?v=KCALJSjGZNc&feature=relmfu>

Inhalers



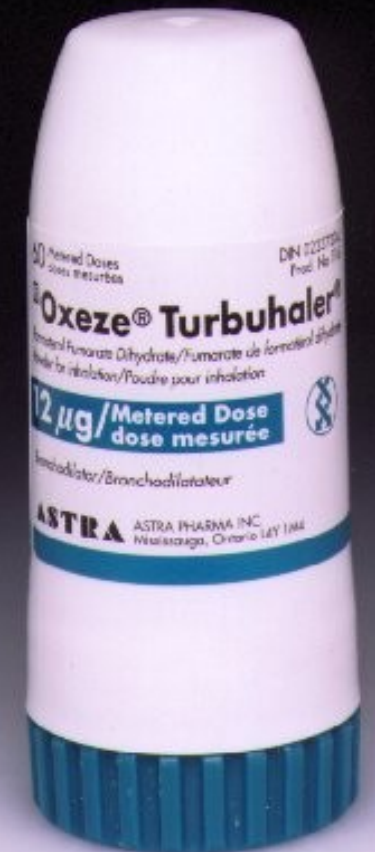
Inhaler (puffer) is a medical device used for delivering medication into the lungs.

Types:

Metered-Dose Inhalers (MDI): most common type. Medication is stored in a pressurised canister.

Dry powder Inhalers (DPI): release a dose of medicine as a powder aerosol.

Nebulisers: aerosol formed from an aqueous formulation.



Indications

- Asthma
- COPD
- Influenza treatment - ZANAMIVIR
- To reduce deposition in the mouth and throat, and to reduce the need for precise synchronisation of the start of inhalation with actuation of the device, MDIs are sometimes used with a **spacer**.



Medications used

3 main groups of drugs used in asthma:

1) Relievers (short-acting bronchodilators): Ease symptoms of breathlessness, wheeziness or tight-chestedness. The drug relaxes the muscle in the airways. Usually contains **salbutamol or terbutaline**.

If the symptoms occur every now and then, then the occasional use of a reliever inhaler may be enough. If a reliever is needed three times a week or more to, a preventer inhaler is usually advised.

2) Preventers (steroid inhalers): Taken every day to prevent symptoms from developing. Steroids reduce the inflammation in the airways. It takes 7-14 days for the effect to build up, therefore no immediate relief of symptoms .

Steroids used:

1) **Beclometasone** - brown or red in colour

2) Budesonide

3) Ciclesonide

4) **Fluticasone** - yellow or orange-coloured

5) Mometasone

3) Long acting bronchodilators: Work in a similar way to relievers, but work for up to 12 hours after taking each dose. They include **salmeterol** (green-coloured) and formoterol.

They may be advised in addition to a steroid inhaler if symptoms are not fully controlled by the steroid inhaler alone.

Some brands contain a steroid + a long acting bronchodilator, e.g:

- Fostair® (formoterol and beclometasone).
- Seretide® (**salmeterol and fluticasone**). Purple-coloured.
- Symbicort® (formoterol and budesonide).



- How to use an inhaler:
- <http://www.youtube.com/watch?v=bq3E70xgSuY>

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"I stopped to smell the flowers. Where's
my inhaler?"

Thank
you