

Inhalers for COPD

Inhalers are often used to treat COPD (Chronic Obstructive Pulmonary Disease.) There are many different types of inhaler, which can be confusing. The purpose of this leaflet is to give information on: the medicines that are inside inhalers; the various types of inhaler device; some general information about inhalers.

This leaflet is about inhalers for COPD. Another leaflet in this series called 'COPD - Chronic Obstructive Pulmonary Disease' gives more general information about COPD. There are also leaflets called 'Asthma' and 'Inhalers for Asthma'.

The medicines inside inhalers

The medicine inside an inhaler goes straight into the airways. Therefore, you need a much smaller dose than if you took the medicine as a tablet or liquid by mouth. The airways are treated, but little of the medicine gets into the rest of the body. So, side-effects are unlikely to occur, or are minor.

In the treatment of COPD, the medicines inside inhalers can be grouped into 'short acting bronchodilators', 'long acting bronchodilators' and 'steroids'. It can get confusing as some types of inhaler come in various brands made by different companies. Also, for some medicines there are different inhaler devices that deliver the same medicine.

Short acting bronchodilator inhalers

An inhaler with a bronchodilator medicine is often prescribed. They relax the muscles in the airways (bronchi) to open them up (dilate) as wide as possible. They include:

- beta agonist inhalers. For example, salbutamol and terbutaline.
- anticholinergic inhalers. For example, ipratropium and oxitropium.

These inhalers work well for some people, but not so well in others. Some people with mild or intermittent symptoms only need an inhaler 'as required' for when breathlessness or wheeze occur. Some people need to use an inhaler regularly. The beta agonist and anticholinergic inhalers work in different ways. Using two, one of each type, may help some people better than one type alone.

Long acting bronchodilator inhalers

These include the beta agonists called formoterol and salmeterol, and the anticholinergic called tiotropium. They work in a similar way to the short acting inhalers, but each dose lasts at least 12 hours. They are an option if symptoms remain troublesome despite taking a short acting bronchodilator.

Steroid inhalers

A steroid inhaler may help in addition to a bronchodilator inhaler if you have more severe COPD. Steroids reduce inflammation. There are several brands of steroid inhaler. A steroid inhaler may not have much effect on your 'usual' symptoms, but may help to prevent flare-ups.

Some brands of inhaler contain a steroid plus a long acting bronchodilator.

Inhaler devices

Different inhaler devices suit different people. They can be divided into four groups.

- Pressurised MDIs (Metered Dose Inhalers)
- Inhalers with spacer devices
- Dry powder inhalers
- Nebulisers

Pressurised MDIs (Metered Dose Inhalers)

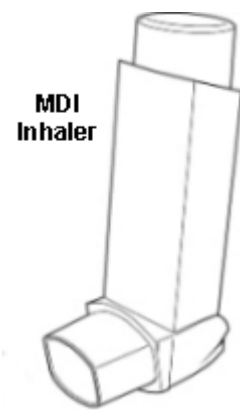
- *The standard MDI inhaler* (shown on the right) has been used for over 40 years. This type of inhaler is used to deliver various types and brands of medicines. The MDI contains a pressurised inactive gas that propels a dose of medicine in each 'puff'. Each dose is released by pressing the top of the inhaler.

This type of inhaler is quick to use, small, and convenient to carry. It needs good co-ordination to press the canister, and breathe in fully at the same time.

The standard MDI is the most widely used inhaler. However, many people do not use it to its best effect. Common errors include: not shaking the inhaler before using it; inhaling too jerkily or at the wrong time; not holding your breath long enough after breathing in the contents.

- *Breath-activated MDIs* are an alternative (for example, the autohaler shown on the right). You don't have to push the canister to release a dose. Instead, you trigger a dose by breathing in at the mouthpiece. So, these type of MDI inhalers require less co-ordination than the standard MDI. They tend to be slightly bigger than the standard MDI.

Until recently, the propellant gas in MDI inhalers has been a CFC (chlorofluorocarbon). However, CFCs damage the earth's ozone layer, and so are being phased out. The newer CFC-free inhalers work just as well, but they use a different propellant gas that does not damage the ozone layer.



Spacer devices

Spacer devices are used with pressurised MDIs (Metered Dose Inhalers). There are various types - an example is shown opposite. The spacer between the inhaler and the mouth holds the medicine like a reservoir when the inhaler is pressed. A valve at the mouth end ensures that the medicine is kept within the spacer until you breathe in. When you breathe out, the valve closes.

So, you don't need to have good co-ordination to use a spacer device.



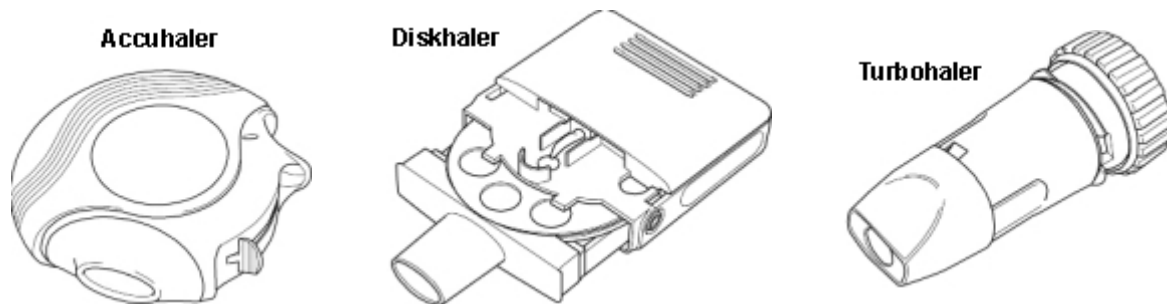
Tips on using a spacer device

The following are tips if you are prescribed a 'holding' spacer. These have a valve at one end - the spacer in the picture above is an example.

- If your dose is more than one puff, then do one puff at a time. Start breathing in from the mouthpiece as soon as possible after firing the 'puff' into the device. Breathe in and out a few times before the next puff.
- Shake the inhaler before firing each puff.
- Try to hold your breath for a few moments each time you breathe in.
- Check that the valve opens and closes with each breath.
- 'Static charge' can build up on the inside of the plastic chamber. This can attract particles of medicine, and reduce the output when the spacer is used. To prevent this, wash the plastic spacer before first use, and then about once a month with water and washing up liquid. Let it dry in air without rinsing or wiping.

Dry powder inhalers

These types of inhaler do not have a gas propellant to 'squirt' the medicine out of a canister. Instead, each dose contains a tiny amount of medicine in a powder form that you suck in. Various devices are made by different companies. Each has a different method of providing the correct amount of powder for each dose. Some types are shown below.



You need to breathe in fairly hard to get the powder into your lungs.

Nebulisers

A nebuliser is a device that generates an aerosol vapour of the medicine. There are many types. You need to wear a face mask, or use a mouthpiece to inhale the vapour. You do not need any co-ordination to use these - you just breathe in and out, and you will breathe the vapour in.

Nebulisers are used mainly in hospital for severe attacks of COPD when large doses of inhaled medicines are needed. They are used less commonly than in the past as modern spacer devices are usually just as good as nebulisers for giving large doses of inhaled medicines.

Common questions and further information

Do you get side-effects from inhalers?

Usually not. At standard inhaled doses, the amount of medicine is small compared to tablets or liquid medicines. This is one of their main advantages. Read the packet insert for details of possible side-effects.

One problem that might occur when using a steroid inhaler (especially if you are taking a high dose) is that the back of your throat may get sore. Thrush infection in the mouth may develop. This can usually be treated easily.

If you rinse your mouth with water and brush your teeth after using a steroid inhaler you are less likely to develop a sore throat or thrush. Also, some inhaler devices (such as spacers) are less likely to cause throat problems. A change to a different device may help if mouth problems or thrush occur.

If you use a **high dose** of inhaled steroid over a long time it may be a 'risk factor' for osteoporosis. You can help to prevent osteoporosis by taking regular exercise, not smoking, and eating a diet with enough calcium.

Which is the best inhaler device to use?

This depends on various factors such as:

- Convenience. Some inhalers are small, can go easily in a pocket, and are quick to use. For example, the standard MDI inhaler.
- Your age. Some elderly people find the MDI inhalers difficult to use.
- Your co-ordination. Some devices need more co-ordination than others. In particular, the standard MDI.
- Side effects. Some of the inhaler medicine hits the back of the throat. Sometimes this can cause problems such as thrush in the mouth. This tends to be more a problem with higher

doses of steroid inhalers. Less medicine hits the throat when using a spacer device. So, a spacer device may be advised if you get throat problems, or need a high dose of inhaled steroid.

Often the choice of inhaler is just your personal preference. Most GPs and practice nurses have a range of devices to demonstrate, and let you get a feel for them. If you are unhappy with the one you are using then it is reasonable to try a different type after taking advice from your GP or practice nurse.

Further help and information

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