

How to minimise the environmental impact of inhalers

Which type of inhaler should I prescribe?

Dry powder inhalers (DPIs) should be used first line – unless there is a clinical reason not to i.e. if a patient does not have sufficient inspiratory flow to use a DPI effectively. However, all adult patients with mild to moderate disease can be assumed to have sufficient inspiratory flow to use a DPI, even during an exacerbation. You may need to apply caution in frail, older patients with severe disease.

If the patient cannot use their DPI effectively during an exacerbation, they should seek medical attention.

An [In-check device](#) can be used to test inspiratory flow in patients you are not sure can use a DPI, but is not required routinely.

What is the environmental impact of inhalers and why are DPIs better than pMDIs?

[The NHS aims to be net zero by 2045](#). Inhalers contribute to over 3% of the total carbon emissions of the NHS.

Pressurised metered dose inhalers (pMDIs) and Breath-actuated inhalers contain propellant to deliver the drug effectively into the lungs. This propellant has a greenhouse gas effect, which contributes to climate change (global warming). DPIs and Soft mist inhalers (SMIs) do not contain propellant so have a lower carbon footprint and are therefore better for the environment.

The plastics included within inhaler devices are taken into account when comparing carbon footprint of DPIs and MDIs (see PrescQIPP data). The average MDI has a 19 x higher carbon footprint than the average DPI.

What if my patient can't use a DPI?

The first priority should be to prescribe an inhaler the patient can effectively use.

If you need to prescribe a pMDI for your patient consider this:

- Instead of 2 puffs of a lower strength inhaler, can you prescribe 1 puff of a higher strength inhaler?
- Can you use combination inhalers to minimise the number of inhalers the patient is on?
- Do they need a spacer to improve technique
- Do you need to step up treatment to achieve better control and reduce reliever inhaler use?

Inhaler technique

Show patients how to use their inhaler device effectively at every patient review. Sub-optimal technique is widespread and causes poor clinical control of respiratory conditions. Signpost patients to [Asthma + Lung UK](#) and [RightBreathe](#) for inhaler technique videos, and/or watch these with your patient.

Patient counselling points

- Patients should be involved in any inhaler switch and be reassured that the aim is to improve disease control whilst also reducing environmental impact, but if disease control worsens due to changing inhalers then they can switch back again.
- Reassure patients that control of their respiratory condition should not change if they are using a different inhaler device, as long as they use it correctly (and are shown how).
- Correct disposal of inhalers i.e. take them to local pharmacy to be disposed of safely. Do not put in household waste or household recycling. Household waste disposal methods result in residual greenhouse gases from MDIs being released into the atmosphere.
- Advise patients to order a new inhaler before the old one runs out but do not stockpile.

Find out more

Greener Practice Guide: How to Reduce the Carbon Footprint of Inhaler Prescribing: [Reducing-Carbon-Footprint-of-Inhaler-Prescribing-v3.3.2.pdf \(pcdn.co\)](#)