Asthma/COPD Inhalers: Should we consider a lower-emission inhaler?

What is this decision aid for?

The decision:

- Should this patient keep their current inhaler, improve technique with their current inhaler, or should a lower-emission alternative such as dry powder (DPI) or soft mist inhalers (SMI) be prescribed.
- This decision aid can help you and your patient discuss inhaler types and make the decision that best fits their health needs, preferences and circumstances.

This decision aid supports shared decision-making with your patient and can be used when starting an inhaler for the first time, or when reviewing an existing pressurised metered dose inhaler (pMDI), giving consideration to lower-emission options. Not all patients should switch inhalers or are suited to a lower-emission inhaler. The best inhaler is the one that is clinically appropriate, affordable, accessible and can be used correctly and consistently.[1]

Why does inhaler choice matter?

Some inhalers have a higher climate impact because they use propellant gases. Other inhalers, such as dry powder inhalers and soft mist inhalers, generally have lower emissions.[2] The best inhaler is still the one that is clinically appropriate and can be used correctly.[1]

What are the inhaler options?

There are 3 inhaler types that you can discuss with your patient:

1

Pressurised Metered Dose Inhaler[3]

Common name

pMDI, puffer

How it works

Uses a propellant to spray the medicine into the lungs

2

Dry Powder Inhaler[4]

Common name

DPI

How it works

The person breathes in strongly and deeply to pull dry powder medicine into the lungs

3

Soft-Mist Inhaler[5]

Common name

SMI

How it works

Uses a spring mechanism to create a slow-moving mist

How we can help your patient

Situation	What this tool helps with
Starting an inhaler	Compare suitable device types before prescribing
Already using a pMDI	Decide whether to continue, improve technique, or consider a lower-emission alternative

Comparing the options

What are the benefits of considering lower-emission inhaler options?

59.5%

of PBS-subsidised respiratory inhalers in 2023 were high-emission inhalers.[6]

~98%

of inhaler-related emissions came from high-emission inhalers.[6]

12 weeks

real-world switch study found selected adults who switched to DPI-based treatment had improved disease control, lung function, quality of life and reliever use.[7]

SMI delivery

small crossover study found SMIs delivered more medication to the lungs than pMDIs in patients with COPD, especially after inhaler technique training.[8]

Note: The quality and applicability of evidence varies. These findings support discussion, not automatic switching. Results may not apply to every patient, every inhaler type, or every clinical situation.

What this evidence does not mean

This evidence does not mean that every patient should switch away from a pMDI. pMDIs remain clinically appropriate for many patients, including some children, patients with poor inspiratory flow, patients requiring a spacer, patients with unstable symptoms, and patients who cannot use an alternative device correctly.[1]

Lower-emission inhalers should only be considered where clinically appropriate.[1]

What are the possible upsides and downsides of each option?[1,4,9]

Option	Benefits	Harms
Staying on current pMDI	Familiar device, may already control symptoms well, useful with spacer, suitable for many children and emergencies, may already be affordable and accessible.	Higher carbon footprint, coordination issues if not using spacer, some people overuse reliever pMDIs.
Starting or switching to a DPI	Lower-emissions, no propellant, no spacer needed, breath-actuated so less coordination needed.	Needs a strong/deep inhalation, technique differs between brands, not suitable for everyone, cost/brand availability and PBS eligibility may vary.
Starting or switching to an SMI	Lower-emissions than pMDIs, slow mist may be easier for some people, no spacer needed.	Limited medicine options, device must be loaded/primed correctly, cost/brand availability and PBS eligibility may vary.
Staying on pMDI but improving technique	Better medicine delivery, may improve symptom control without changing medicine, spacer can reduce technique problems.	Still uses propellant, still higher carbon footprint than many DPI/SMI options.

What matters most to the patient?

Tick what matters most when choosing an inhaler.

What matters most?	Not important	Somewhat important	Very important
Keeping my breathing stable	☐	☐	☐
Easy inhaler technique	☐	☐	☐
Low cost / PBS access	☐	☐	☐
Staying with a familiar inhaler	☐	☐	☐
Reducing environmental impact	☐	☐	☐
Convenience / fewer steps	☐	☐	☐

After completing this table, discuss which option best matches the patient's clinical needs and preferences.

Things to consider:

1. Am I happy with my current inhaler?
2. Do I understand why a lower-emission inhaler is being discussed?
3. What matters most to me: familiarity, symptom control, convenience, cost, environmental impact?
4. What should I do if my symptoms worsen after switching?
5. Can I use the alternative inhaler correctly?
6. Will the alternative inhaler cost more or be harder to access?

Which inhaler options should I discuss with my patient?

This table is a simple guide that can be used in two ways:

- It can help if the patient is starting an inhaler for the first time (start in column one).
- It can help if the patient already uses a pMDI and wants to know whether a lower-emission alternative exists (start in column two).

Not every pMDI has a direct dry-powder or soft-mist alternative. Some switches use the same medicine, some use a similar medicine, and some pMDIs have no comparable alternative. Decisions made may require checking current PBS criteria, product availability, dose equivalence and local prescribing guidelines.[1,4,9]

Do not switch during: Acute exacerbation, unstable symptoms, recent hospitalisation, poor inhaler technique, inability to use the alternative device, or if the patient strongly prefers not to.[1,4,9]

If any of these apply, continue current therapy and review again when clinically appropriate.

Note: A more detailed table is available on our website, including access and availability. prescribeinhalerprotectplanet.com.au

What do I need the inhaler for?	Common pMDI options	Possible lower-emission options to discuss	Important note
Quick symptom relief	Salbutamol pMDIs, such as Ventolin, Asmol or Airomir.	Terbutaline DPI, Bricanyl Turbuhaler. Some adults/adolescents with asthma may be suitable for a budesonide/formoterol anti-inflammatory reliever approach.	There is no direct salbutamol DPI swap. A pMDI may still be best for children, emergencies, poor inspiratory flow or spacer use.
Preventer inhaler only	Steroid pMDIs, such as QVAR, Flixotide or Alvesco.	Dry powder steroid preventers such as Pulmicort Turbuhaler, Flixotide/Axotide Accuhaler or Arnuity Ellipta.	Some preventers have similar lower-emission options, but not all are exact medicine-for-medicine swaps. Dose and device technique must be checked.
Combination preventer inhaler	Combination pMDIs, such as Symbicort Rapihaler, Seretide pMDI, Flutiform, or Fostair.	Dry powder combination inhalers such as Symbicort Turbuhaler, DuoResp Spiromax, Bufomix Easyhaler, Seretide Accuhaler, Salflumix Easyhaler, Breo Ellipta or Atectura Breezhaler.	Some pMDIs have clearer same-medicine DPI options, especially Symbicort/Rilast and Seretide-type inhalers. Others require a medicine change.
COPD maintenance inhaler	Some COPD medicines are available as pMDIs, including some triple-therapy inhalers.	Many COPD inhalers are already propellant-free, including Respimat, Ellipta, Breezhaler, Genuair, Handihaler and Zonda devices.	COPD switches are often treatment reviews, not simple device swaps. The GP must check diagnosis, symptom control and PBS criteria.
Triple therapy	Trimbow pMDI or Breztri Aerosphere pMDI.	Trelegy Ellipta or Enerzair Breezhaler may be options for some patients.	These are similar-class alternatives, but not exact same-ingredient switches. They may not suit every patient.

Table informed by Australian asthma/COPD guidance and GP-focused inhaler prescribing literature.[1,4,9,10]

Using the table in practice

How to use this table in a GP consultation.

1

Identify the clinical need:

Is the inhaler for asthma or COPD, and is it needed as a reliever, preventer, combination inhaler or maintenance therapy?

2

Check suitable options:

Is the same medicine, or a similar medicine, available as a DPI or SMI? Check PBS access, age/condition criteria and clinical suitability.

3

Check device technique:

Make sure the patient can use the device correctly. pMDIs often need coordination or a spacer, DPIs need a quick deep breath, and SMIs need correct preparation and a slow steady breath.[1,4]

4

Make a shared decision:

Choose the inhaler based on symptom control, safety, cost, ease of use, environmental impact and patient preference.[1,4,9]

5

Teach and review:

Demonstrate the inhaler, watch the patient use it, update the action plan and arrange follow-up.

Note:
Before deciding, check diagnosis, symptom control, inhaler technique, inspiratory flow if considering a DPI, patient preference and follow-up plan.[1,9]

What did we decide today?

- ☐ Continue current pMDI
- ☐ Continue current pMDI but improve technique / add spacer
- ☐ Trial a dry powder inhaler
- ☐ Trial a soft mist inhaler
- ☐ Continue current therapy and follow-up review

Reason for decision: _____
Follow-up plan: _____
What to do if symptoms worsen: _____

When should you seek further help?

Seek urgent medical care if breathing is getting worse, reliever inhaler is not helping, lips or face look blue, speech is difficult because of breathlessness, or the patient is unusually drowsy or distressed.[1,9]

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Last reviewed: 09/07/2026

This resource supports shared decision-making and does not replace clinical judgement, current Australian guidelines, PBS information or individual patient assessment.