

Theme 2 – Patient and Doctor: Clinical Practice
CLINICAL COMMUNICATION & CLINICAL SKILLS COMPONENT

STUDENT GUIDE

TUTORIAL BACK TO CAMPUS – Patient instruction – Asthma/COPD Devices

Learning Objectives

- Describe the different types and delivery mechanisms of asthma/COPD devices and spacers
- Demonstrate the correct use of different devices and spacers
- Describe common errors, cleaning and priming of devices and spacers,
- Practise education of a patient on the appropriate use of different devices and spacers

OVERVIEW

In this tutorial you are introduced to the different types of asthma devices and their mechanisms as well as inhalers. The focus on the session is on the correct use of the different devices, not the different medications and when they should be used. A number of different devices and spacers will be available for the session with a link to videos explain the correct use of each device (National Asthma Campaign).

The communication focus of this session is a simulation – you will practise in pairs the approach to educating a patient to use each device, identifying any common errors and correcting these.

For occupational health and safety the devices can be handled when demonstrating and practising you should not put the mouth around the devices – but hold them to the side and ‘pretend’.

IMPORTANT RESOURCES

1. NAC Australian Asthma Handbook. Inhaler devices and technique:
 - Device choice
 - Inhaler technique
 - Using inhalers
 - Spacers<https://www.astmahandbook.org.au/management/devices>
2. NAC Australian Asthma Handbook. Information paper
<https://www.nationalasthma.org.au/living-with-asthma/resources/health-professionals/information-paper/hp-inhaler-technique-for-people-with-asthma-or-copd>
3. NAC Australian Asthma Handbook How-to videos
<https://www.nationalasthma.org.au/how-to-videos>

MATERIALS AVAILABLE DURING SESSION

You will need to be able to instruct a patient using any of the devices available during this session.

1. Devices:

- Metered dose inhaler and Rapihaler
- Turbuhaler
- Accuhaler
- Ellipta
- Handihaler

2. Spacers

- Breath-a-Tech with medium mask
- eChamber La Petite spacer
- Volumatic

SUMMARY POINTS

Why is understanding inhaler devices and teaching the technique to use them so important?

- *Most patients with asthma or COPD do not use their inhalers properly, and most have not had their technique checked or corrected by a health professional*
- *Incorrect inhaler technique when using maintenance treatments increases the risk of severe flare-ups and hospitalisation for people with asthma or COPD*
- *Poor asthma symptom control is often due to incorrect inhaler technique and can result in overuse of relievers and preventers*
- *Incorrect inhaler technique when using inhaled corticosteroids increases the risk of side-effects like dysphonia and oral thrush*
- *The steps for using an inhaler device correctly differ between brands*
- *Checking and correcting inhaler technique can improve asthma outcomes.*

What is the most effective way to teach patients how to use devices?

Watch, don't just ask

- *Ask the patient to show how they use the device*
- *Use checklists for inhaler technique*
- *Don't rely on their own assessment (A study revealed 75% of patients using an inhaler for 2-3 years reported that they used it correctly, but only 10% showed the correct technique)*

Show, don't just tell

- *One-to-one training*
- *Verbal instruction AND demonstration*

Patient demonstration and feedback

- *Get the patient to demonstrate*
- *Use checklists for inhaler technique and highlight steps that were incorrect (This has been shown to help patients maintain the correct technique longer)*
- *Provide written instructions*

Repeat, don't just prescribe

- *Technique and training must be repeated regularly (skills can be lost within 2-3 months)*

Correct device technique – standard MDI and Rapihaler

How to use a standard MDI (puffer) (2:32)

<https://www.nationalasthma.org.au/living-with-asthma/how-to-videos/how-to-use-mdi>

How to use a Rapihaler (3:18)

<https://www.nationalasthma.org.au/living-with-asthma/how-to-videos/how-to-use-rapihaler>

Common mistakes

- *Holding the inhaler in the wrong position*
- *Not breathing in at the same time as pressing the canister*
- *Not breathing in deeply enough*
- *Breathing in too fast: Can increase the amount of medicine that hits the back of the throat. —> use a slow and steady breath.*
- *Not holding breath for long enough*
- *Taking several puffs without waiting or shaking the inhaler in between*
- *Forget to shake: the propellant and the medicine don't mix together. Wait for 30 seconds to allow for mixing. Needs to be set up (primed) after first use and when it has not been used for several days.*
- *No PRIMING: The propellant in the inhaler can evaporate or escape from the metering chamber if not used for days and weeks. —> give the device a pump before use to make sure it releases the full dose.*

Cleaning

- *Remove metal canister from the plastic canister and remove mouthpiece cover.*
- *Rinse the plastic casing under warm water for at least 30 seconds.*
- *Shake off excess water and air dry.*
- *Put metal canister back when dry, test it by releasing a single puff in the air and replace mouthpiece cover.*
- *Metered dose inhalers containing corticosteroids should never be washed. Wipe dry with a tissue.*

Correct device technique – spacer with standard MDI or Rapihaler

There are many brands and their material defines the requirement for priming. There is also a cardboard spacers (DispozABLE/LiteAire) which require no cleaning or priming

Name	Material	Cleaning necessary	Priming before first use
Breath-A-Tech	Plastic	Yes	Yes
Spacer la petite	Polycarbonate polyurethane	yes	No
Volumatic	Plastic	Yes	Yes

When spacers are recommended to be used?

- adults who have troubles to coordinate “press and inhale” technique.
- adults taking a corticosteroid preventer
- anyone taking a reliever medication during an asthma attack
- all children (kids under 5 need a mask attached)

How to use a standard MDI and spacer (5:41)

<https://www.nationalasthma.org.au/living-with-asthma/how-to-videos/how-to-use-a-standard-mdi-and-spacer>

How to use a rapihaler and spacer (3:48)

<https://www.nationalasthma.org.au/living-with-asthma/how-to-videos/how-to-use-rapihaler-with-spacer>

Common mistakes

Delayed inhalation: medication settles on the bottom of the spacer

Priming and washing and checking integrity

Once a month and after recovering from any cold:

- Dismantle, wash parts in warm soapy water with liquid dishwashing agent
- Air dry without rinsing or towel drying. (drying with cloth or paper can result in static building up on the inside of the spacer, which makes medication stick to the sides).
- reassemble when completely dry

New plastic spacers (not those made from antistatic polymers) also have to be washed prior to first use. e.g. Breath-A-Tech and Volumatic

If a new plastic spacer must be used immediately, it can be primed by firing multiple (at least 10) puffs of medicine into the spacer. (This is an arbitrary number of actuations in the absence of evidence that would enable a precise guideline.) Patients should follow the manufacturer’s instructions.

Check every 6-12 months by pharmacist for cracks/ valve dysfunction

Correct device technique – spacer with dry powder inhaler

Two types

- *medicine is contained within inhaler at all times (Accuhaler, Ellipta, Genuair, Turbuhaler)*
- *medicine comes in a separate capsule that must be placed into the inhaler device at the time of use (Breezhaler, Handihaler, Zonda)*

2. Discuss advantages and disadvantages of a dry powder inhaler?

- *Easier to use than an MDI*
- *Fewer irritant effects*
- *Fewer patients develop poor inhalation technique*
- *They require a good inspiratory flow rate and therefore patients with poor flow rates or severe acute asthma can't use them*
- *They can't be used with spacers and this may be a disadvantage in patients who inhale large doses of steroids*

How to use a Turbuhaler (3:26) <https://www.nationalasthma.org.au/living-with-asthma/how-to-videos/using-your-turbuhaler>

How to use an Accuhaler (2:55) <https://www.nationalasthma.org.au/living-with-asthma/how-to-videos/using-your-accuhaler>

How to use a Handihaler (4:19) <https://www.nationalasthma.org.au/living-with-asthma/how-to-videos/how-to-use-handihaler>

Cleaning

- *Wipe mouthpiece with dry cloth at least once a week.*
- *Do not use water*

Common errors using a dry powder device

- *tilting the device while loading the dose instead of keeping it in the correct position (horizontal for Accuhaler or vertical for Turbuhaler)*
- *shaking the device*
- *failing to exhale fully before inhaling*
- *failing to inhale completely*
- *inhaling too slowly and weakly*
- *exhaling into the device mouthpiece before or after inhaling*
- *failing to close the inhaler after use*
- *using past the expiry date or when empty.*

APPENDIX B.

Considerations for choice of inhaler device when prescribing inhaled medicines

Clinical situation	Consideration
Acute asthma (all patients)	Recommend use of spacer when using reliever via pMDI for acute asthma
Any patient using a pMDI for an inhaled corticosteroid	Recommend use of a spacer every time (except for breath-actuated pMDIs)
Infants and small children	Use a spacer with a facemask
Poor manual dexterity (e.g. weak hands or arthritis)	Consider either of: <ul style="list-style-type: none">› a Haleraid device with relevant pMDIs (available for salbutamol, fluticasone, fluticasone/salmeterol)› a breath-actuated inhaler
Difficulty connecting spacer to pMDI (e.g. elderly patient with weakness or poor coordination)	Leave spacer connected: pharmacist can attach spacer to inhaler each time canister is replaced, and leave attached until medicine is used up. (If patient uses more than one pMDI , provide a separate spacer for each device. Consider a breath-actuated inhaler.
Inability to form a good seal around the mouthpiece of the inhaler or spacer (e.g. person with cognitive impairment or facial weakness)	Consider a spacer plus age-appropriate facemask
Difficulty speaking or reading English	Give a physical demonstration Use videos Use an interpreter or provide written instructions in the person's first language
Using multiple inhalers	Choose the same type for each medicine, if possible, to avoid confusion If not possible, train person in the correct inhaler technique for each of their devices, emphasising any key differences (e.g. speed of inhalation, shake pMDIs but not dry-powder inhalers)

<https://www.asthmahandbook.org.au/management/devices>

