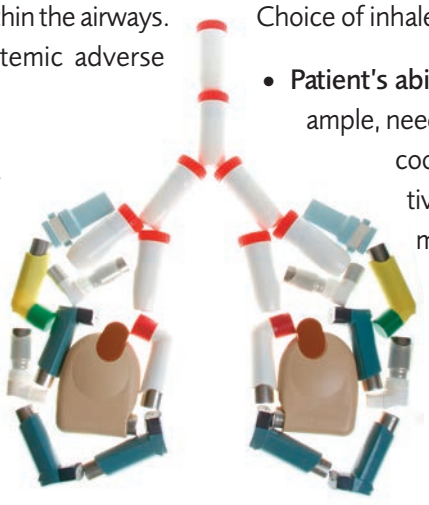
Getting the Basics Right

Inhaler technique



Tricia Bryant, supported by Stephen Gaduzo and Stephanie Wolfe summarises PCRS-UK resources on inhaler technique for easy reference

Inhalation is the main route for the administration of drugs for conditions such as asthma and COPD. The advantage of administering drugs by inhaler is that the drugs are delivered directly to the site of action within the airways. The onset of action is rapid and systemic adverse effects are minimised.[1]



In order for inhaled therapy to be effective the correct drug, at the right dose must be prescribed and the device must be used correctly. However, poor inhaler technique is common and it is estimated that only 15% of patients use pressurized metered dose inhalers (pMDIs) correctly.[2] Inadequate control is linked with poor symptom control, increased emergency visits and wasted resources.[3,4,5]

Inhaled medications should only be prescribed by clinicians who are competent at assessing inhaler technique,[3,6]

The least cost-effective inhaler device is the one that the patient cannot use. In deciding which device and drug formulation to prescribe healthcare professionals should first determine the patient's ability to use the prescribed device correctly

but choosing a drug and corresponding device from the large variety available is potentially confusing.

Choice of inhaler should be based on:-

- **Patient's ability to use the device**. pMDIs for example, need to be used by people who have good coordination of inspiration with inhaler activation and correct inhalation flow rate - many people inhale too quickly
- **Patient's lifestyle and circumstances**. The device and drug should be compatible with the patient's needs. Some patients may be more compliant with medication which can be used as a reliever as well as a preventer/combination inhaler. Some patients may require an inhaler which has a dose counter so that they know when to organise a repeat prescriptions
- **Patient preference**. If the patient does not like the device they will not use it. The inhaler needs to be portable, easy to clean and acceptable to the patient
- **Age, competency and physical ability**. Comprehension of instructions, ability to adopt correct posture, ability to hold breath, physical dexterity and visual acuity must be considered, particularly in young and elderly patients and those with physical disabilities. Many patients may require spacer devices to support delivery of inhaled medication from a pMDI.

Inhaler devices may seem simple to use but they are often used incorrectly by patients and healthcare professionals alike.[7-9] For example, in a study of 60 patients in 2009,

Relying on the Patient Information Leaflet as the only instructional information on the use of an inhaler is not acceptable. Full training in the use of the type of device being prescribed must be provided and the technique tested either using placebo devices, prescribed medication or specially designed airflow meters.

98% considered that they used a correct inhaler technique, whereas only 8% were assessed objectively as having good technique.[10]

Training the trainer – Inhaler technique

Healthcare professionals have a responsibility to ensure that they are appropriately trained and qualified to deliver the care they are required to provide. If you are not confident that you can accurately train patients to use their inhalers correctly you must seek appropriate training. Ask your practice to support your professional development.[11,12]

A range of training courses are available to support your professional development including:-

- Education for Health. https://www.educationforhealth.org/course/improving-inhaler-technique-workshop/
- Centre for Pharmacy Postgraduate Education, University of Manchester https://www.cppe.ac.uk/news/a?ID=329.
- Wales Centre for Pharmacy Professional Education http://www.wcppe.org.uk/civicrm/event/info?reset=1&id=513

Training patients to use devices appropriately

Inhaler technique training is essential at the time of first prescription but is also part of ongoing respiratory care. Technique should be assessed regularly and training repeated at every review. With repeated inhaler instruction there is evidence that patient adherence improves substantially.[13,14]

Common problems/mishandling of inhalers[4,15]

- Not breathing out first
- Not holding the breath after taking inhaler
- Not priming the device properly
- Not shaking the inhaler (if required)
- Not holding the inhaler in the upright position (where recommended)
- Inhaling too early or inhaling too late
- Not leaving enough time between doses
- Actuation against teeth, lips or tongue
- Stopping inhalation immediately after firing
- Not using correct inspiratory effort (firm/forceful and deep for dry powder device (DPI) and gentle and deep for pMDI/mist/spacer)
- Inhalation through nose whilst and after actuation
- Failing to form a good seal around the mouthpiece

A number of tools and resources are available to support inhaler technique training. These include:-

Devices

Pharmaceutical Companies produce placebo devices/testers that can be used to support technique training. Contact your local pharmaceutical representative to obtain placebo devices to use with patients.

A number of instruments have been produced to support testing of inspiratory flow rate such as the In Check (Clement Clark) device, 2-Tone Trainer (Canday Medical) MagFlo (Fyne Dynamics) Aerosol Inhalation Monitor (Vitalograph). Make sure you are competent to use the training instruments as well as the inhalers.

Videos

There are videos available to support training of patients. Suggested videos are shown below:-

Asthma UK has a web page which details how to use inhalers, common problems in using inhalers, details on where to get more information and a series of video clips on how to use different devices.
Visit the web page at https://www.asthma.org.uk/advice/inhalers-medicines-treatments/using-inhalers/#one

Greater Manchester Inhaler Technique Improvement Project supported by the Wessex HIEC Knowledge Programme. A range of different inhalers are demonstrated clearly using real healthcare professionals and patients http://wessexahsn.org.uk/videos/show?tag=Inhaler%20Technique

Charts and Leaflets

- The patient information leaflet can be used to support training
- The Global Initiative for Asthma includes written instructions on how to use different devices. You can download these from http://www.ginasthma.org/local/uploads/content/files/inhaler_charts_2011.pdf
- Inhaler Device Technique Cards – Seven Steps to success developed by University Hospitals of Leicester – Available for purchase see Simple Steps Education – www.simplestepeducation.co.uk

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Acknowledgements

This document was adapted from the Primary Care Respiratory Society UK opinion sheet, Tailoring Inhaler Choice written by Karen Heslop June 2012 available at https://www.pcrs-uk.org/resource/Opinion-sheets/tailoring-inhaler-choice-opinion-sheet

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Further Information

UK Inhaler Group - http://www.respiratoryfutures.org.uk/programmes/uk-inhaler-group/ The UK Inhaler Group have a range of resources and tools which may be helpful in teaching inhaler technique and they are currently in the process of developing a series of standards for healthcare professionals who check and teach inhaler technique.

PCRS-UK Table of inhaled medication – See https://www.pcrs-uk.org/resource/Guidelines-and-guidance/table-inhaled-drugs for comprehensive list of inhaled medications.