This education program is endorsed by the Australian Nursing and Midwifery Federation (ANMF).
Participation attracts 1.5 CPD hours.

Asthma CARE

Collaborative **A**irway **R**eview and **E**valuation

ASSESSING ADHERENCE AND INHALER TECHNIQUE IN PATIENTS WITH ASTHMA USING A PREVENTER

GUIDED SELF-LEARNING MODULE

gsk

DID YOU KNOW?

- **Australia has one of the highest prevalence rates of asthma in the world[1]**
  - 1 in 10 adults and children (~2.3 million people) have asthma in Australia
- **The average number of scripts purchased per patient for asthma from April 2013 to March 2014 was 4.5 scripts per year[2]***
  - This suggests that patients are not taking their preventer medications on a daily basis
- **Up to 90% of people make at least one error when using their inhaler[3]^**
  - This can lead to insufficient drug delivery to the airways that is associated with poor asthma control

While appearing straightforward, the correct use of an inhaler involves a series of steps, all of which need to be performed accurately to ensure the right amount of medicine is delivered with minimal adverse effects. Nurses play a key role in helping patients use their asthma inhalers correctly.

This guided self-learning module assists nurses to engage with their patients in a guided conversation about their inhaler technique and demonstrate correct technique for a range of asthma inhaler devices.

Learning outcomes

Participants in this activity will become more confident in their ability to:

- Engage with patients when checking their medication adherence and asthma inhaler device technique
- Demonstrate the correct technique for a range of asthma inhaler devices
- Know when to refer the patient to the GP i.e. when correct inhaler technique is still not managing the asthma symptoms

Whenever asthma control is insufficient despite adequately prescribed treatment, poor adherence and/or poor inhaler technique, are probable reasons for consideration.[4]

* Based on 10% sample set of PBS data on prescription claims for patients prescribed budesonide/eformoterol or fluticasone propionate/salmeterol during a 12 month period (April 2013 to March 2014)

^ Data based on clinical studies (asthma or COPD) with either metered dose inhalers or dry powder inhalers

Assessing and optimising adherence 8 MIN

Most patients do not take their preventer medication as often or regularly as prescribed, particularly when symptoms improve, or are mild or infrequent.[4, 5]

Poor adherence may be intentional and/or unintentional. Common barriers to the correct use of preventers include:[4, 5]

- Not able to afford the cost of medicines and/or consultations
- Concerns about side effects
- Interference with the patient's lifestyle
- Forgetting to take medicines
- Lack of understanding/appreciation of the reason for taking the preventer
- Inability to use the inhaler device correctly
- Health beliefs that are in conflict with the belief that the prescribed medicines are effective, necessary or safe

Adherence may be improved when patients are given the opportunity to negotiate the treatment regimen based on their goals and preferences. Assessment of adherence requires an open, non-judgemental approach.

If adherence is found to be suboptimal:[4, 5]

- Address the patient's concerns
- Explore barriers and motivating factors
- Provide counselling on the importance of the prescribed regular use of asthma preventers, even when not experiencing any symptoms

Strategies to adopt when trying to optimise adherence:[4, 5]

- Develop open, communicative, non-judgemental relationships with patients
- Normalise poor adherence in dealings with your patient
- Adopt a partnership approach to asthma management with your patient
- Involve your patient in the planning process
- Ensure that your patient understands their asthma and treatment

Some practical ways in which to implement the above strategies include:[4, 5]

- Facilitate recall
- Use appropriate information-gathering skills and facilitate better communication with your patients by:
  - Using skills such as open-ended questions
  - Avoiding questions that elicit a yes/no response or that are judgemental in their tone
  - Showing empathy and warmth and following up on the patient's verbal clues.
- Ask questions that will elicit information about the patient's health beliefs, their attitude to their diagnosis and their willingness to make behaviour changes in order to better manage their asthma
- Provide opportunity for patients to express any concerns about the medication (unvoiced concerns about chronic medication use can lead to self-discontinuation)
- Explain likely side-effects and suggest ways these can be minimised (one of the quickest ways to engender non-compliance is for a patient to experience side-effects about which they have not been forewarned)
- Give a balanced explanation of the benefits/risks of the medications.
- Provide written education material and a written record of medication names and doses.
- Make sure the patient's Asthma Management Plan is in a written form that she/he can easily understand.

Factors that improve partnership:[4, 5]

- Appropriate body language
- Enquiring about patient's concerns
- Reassuring the patient
- Addressing immediate concerns of the family
- Interactive exchange
- Praise for correct management
- Eliciting patient's own goals
- Reviewing the long-term plan
- Involving the patient in the planning process
- Focus on short-term goals while highlighting the long-term objectives

Think of an adult patient in your practice

Think of a patient in your practice who has poor asthma control and prepare some questions to uncover if there are adherence issues.

Pose questions that uncover how often the preventer is used:

(hint: ask about usage in the past 4 weeks, how many days per week, how many times per day, how many puffs each time; remember to word it in a non-judgemental and open-ended way)

With the same patient in mind, assuming that there are adherence issues, pose questions that uncover the reason(s) for non-adherence:

(hint: ask about personal concerns and health beliefs, any memory issues, check inhaler technique; remember to word it in a non-judgemental, empathetic and open-ended way)

Refer to Appendix 1 for a sample checklist that you can use in practice to assist you with assessing your patients' adherence and identifying reasons for non-adherence.

About inhaler techniques 2 MIN

The majority of patients do not use their inhalers correctly. Common issues with inhaler technique include:[6]

- Failing to load the device properly
- Multiple actuations without waiting or shaking between doses
- Lack of coordination between activation and inhalation
- Inability to hold breath sufficiently after breathing in fully
- Positioning of inhaler at the wrong angle
- Dexterity issues due to cognitive or physical disabilities
- Failure to generate adequate inspiratory flow

Regardless of the type of inhaler device prescribed, patients are only likely to use their inhalers correctly if they receive clear instructions, including a physical demonstration, and subsequently checking their technique after training. Indeed their technique may warrant regular and repeated training in order to maintain correct inhaler usage.

Think of an adult patient in your practice 30 MIN

Assuming that the patient you had identified above has poor inhaler technique, think about how you might train this patient:

First, think about 2 preventer inhalers* which you may need refresher training on with respect to technique.
What are the inhaler devices you selected?

Then go to the following websites to review inhaler techniques for your chosen inhalers:

- National Asthma Council Australia's *Using your inhaler* webpage at http://www.nationalasthma.org.au/how-to-videos/using-your-inhaler
- National Prescribing Service (NPS) MedicineWise *Inhaler devices for respiratory medicines* webpage at http://www.nps.org.au/topics/how-to-be-medicinewise/managing-your-medicines/inhaler-devices-for-respiratory-medicines

For each inhaler you chose, write down simple step-by-step instructions which you would use when training your patients: (hint: list about 10 simple steps for each inhaler)

Inhaler 1: (name of inhaler)

Inhaler 2: (name of inhaler) _____

Refer to Appendix 2 for a sample checklist that you can use in practice to assist you with training your patients on correct inhaler techniques across the various devices. Knowing the steps in inhaler technique and common errors for each type of inhaler can assist you to check your patients' technique and provide effective instruction.

This checklist aims to support you in achieving positive patient outcomes.

Further information (including patient and health professional resources) is available from the National Asthma Council Australia, your local Asthma Foundation or your division of general practice/general practice network.

* Preventers are used in maintenance treatment to reduce airway inflammation. They include:

- Inhaled corticosteroids (beclomethasone, budesonide, ciclesonide, fluticasone propionate)
- Combination inhaled corticosteroid/long-acting beta$_2$ agonist medicines (budesonide/eformoterol, fluticasone furoate/vilanterol, fluticasone propionate/eformoterol, fluticasone propionate/salmeterol)
- Leukotriene receptor antagonists (montelukast)
- Cromones (cromoglycate and nedocromil sodium)

Test your knowledge of preventer inhalers

Complete the following table:

(hint: Refer to the Asthma and COPD Medications chart (Available at http://www.nationalasthma.org.au/uploads/content/195-Asthma-Medication-Chart-2015.pdf)

Generic name(s)	Device type or name
Beclomethasone	
Budesonide	
Budesonide/eformeterol	
Ciclesonide	
Fluticasone propionate	
Fluticasone propionate/eformeterol	
Fluticasone propionate/salmeterol	
Fluticasone furoate/vilanterol	
Nedocromil sodium	

Please check answers found in Appendix 3.

You have nearly completed your guided self-learning module. To assist you with implementing what you have learnt into clinical practice, we have provided you with the following in the accompanying resource pack:

- Instructions on how to navigate Medical Director and Best Practice software
  - To identify patients with asthma and generate recall letters
- Letter templates for initial recall and follow-up
  - To facilitate the recall of patients with asthma
- Adherence/Inhaler Technique Checklist
  - To provide a practical reference checklist for use during the review of your patients
- Tear-off pad of referral forms
  - To assist with a comprehensive review of your patients, with accompanying referral option to GP if required

Your objectives when implementing what you have learnt

List five SMART (specific, measurable, achievable, realistic, timely) objectives in relation to implementing what you have learnt into clinical practice (example: I will aim to make appointments with x number of patients every week in the next 3 months).

Consider some of these questions when making your SMART goals:

- How many asthma patients in your practice do you think you can counsel per week?
- How do you plan to communicate with them?
- How much time do you propose to spend with each patient?
- How do you think this will change clinical practice for you?

My goals with respect to assisting patients with asthma to improve adherence and inhaler technique:

1

2

3

4

5

CONGRATULATIONS!

You have now completed the Asthma CARE nurse education program and will be awarded 1.5 CPD hours. Please complete the 'coursework evaluation' and 'request for certificate' form, and return it in the reply-paid envelope.

REFERENCES

1. www.aihw.gov.au/asthma (accessed 25 May 2015).
2. Prospection Data (April 2013 to March 2014).
3. National Asthma Council Australia (NACA). Inhaler technique in adults with asthma or COPD. National Asthma Council Australia, Melbourne, 2008. URL: http://www.nationalasthma.org.au/uploads/publication/inhaler-technique-in-adults-with-asthma-or-copd.pdf (accessed 25 May 2015).
4. National Asthma Council Australia (NACA). Australian Asthma Handbook, Version 1.1. National Asthma Council Australia, Melbourne, 2014. URL: http://www.asthmahandbook.org.au/management/adherence/assessing-adherence.pdf (accessed 25 May 2015).
5. http://www.nationalasthma.org.au/uploads/publication/asthma-adherence.pdf (accessed 25 May 2015).
6. National Asthma Council Australia (NACA). Australian Asthma Handbook, Version 1.1. National Asthma Council Australia, Melbourne, 2014. URL: http://www.asthmahandbook.org.au (accessed 25 May 2015).

ADHERENCE CHECKLIST

ASSESSMENT OF ADHERENCE TO PREVENTER

Many people don't take their medication as prescribed. Use the following questions to assess the adult patient's adherence to preventer treatment in a non-judgemental and empathetic manner.[1]

1. In the last four weeks:

a) How many days a week would you have taken your preventer? None at all? One? Two? (etc).

b) How many times a day would you take it? Morning only? Evening only? Morning and evening? (or other)

c) Each time, how many puffs would you take? One? Two? (etc).

2. Do you find it easier to remember your medication in the morning, or the evening?

Adapted from NACA 2015

If non-adherence has been identified above, consider whether any common barriers to the correct use of preventers apply:

- ◯ Not able to afford the cost of medicines or consultations to alter the regimen
- ◯ Concerns about side effects
- ◯ Interference of the regimen with lifestyle
- ◯ Forgetting to take medicines
- ◯ Lack of understanding of the reason for taking the preventer
- ◯ Inability to use the inhaler device correctly
- ◯ Health beliefs that are in conflict with the belief that the prescribed medicines are effective, necessary or safe
- ◯ Other (please specify)

Adapted from NACA 2015

Address the patient's concerns, explore barriers and motivating factors, and provide counselling on the importance of the prescribed regular use of asthma preventers, even when not experiencing any symptoms.[1] Based on the outcome of this adherence review, consider referral to the GP, as appropriate.

REFERENCES

1. National Asthma Council Australia (NACA). Australian Asthma Handbook, Version 1.1. National Asthma Council Australia, Melbourne, 2015. URL: http://www.asthmahandbook.org.au/management/adherence/assessing-adherence.pdf (accessed May 2015)

APPENDIX 2

INHALER TECHNIQUE CHECKLIST

ASSESSMENT OF INHALER TECHNIQUE

Ask the patient to show you how they use their inhaler. Ask "Can you show me how you use your inhaler?" rather than "Can you use your inhaler?" It is important to confirm that the patient is taking the dose of preventer prescribed most recently.[1,2]

Use the following checklist to teach, check and/or confirm the way the patients uses their inhaler.[1]

Does the patient belong to a subgroup associated with poor inhaler technique?

- ○ Older patients
- ○ Patients with COPD
- ○ Patients with cognitive impairment
- ○ Lower education level
- ○ Poor English language skills
- ○ Concurrent use of multiple inhaler types

Accuhaler (11 steps)

- ○ 1. Check dose counter
- ○ 2. Open cover using thumb grip
- ○ 3. Holding horizontally, load dose by sliding lever until it clicks
- ○ 4. Breathe out gently, away from the inhaler
- ○ 5. Place mouthpiece in mouth and close lips to form a good seal, keep inhaler horizontal
- ○ 6. Breathe in steadily and deeply
- ○ 7. Hold breath for about 5 seconds or as long as comfortable
- ○ 8. While holding breath, remove inhaler from mouth
- ○ 9. Breathe out gently away from the inhaler
- ○ 10. If an extra dose is prescribed (not generally recommended), repeat steps 3 to 9
- ○ 11. Close cover to click shut

Autohaler (12 steps)

- ○ 1. Remove cap
- ○ 2. Hold inhaler upright and shake well
  (Qvar Autohaler does not need to be shaken before use)
- ○ 3. Push lever up
- ○ 4. Breathe out gently, away from the inhaler
- ○ 5. Place mouthpiece between teeth without biting and close lips to form a good seal
- ○ 6. Breathe in slowly and deeply. Keep breathing in after click is heard
- ○ 7. Hold breath for about 5 seconds or as long as comfortable
- ○ 8. While holding breath, remove inhaler from mouth
- ○ 9. Breathe out gently away from the inhaler
- ○ 10. Push lever down
- ○ 11. If an extra dose is needed, repeat steps 2 to 10
- ○ 12. Replace cap

Ellipta (9 steps)

- ○ 1. Check dose counter
- ○ 2. Slide the cover down until you hear a click (do not shake the inhaler)
- ○ 3. Breathe out gently, away from the inhaler
- ○ 4. Place mouthpiece in mouth and close lips to form a good seal. Do not block air vent with your fingers
- ○ 5. Breathe in steadily and deeply
- ○ 6. Hold breath for about 5 seconds or as long as comfortable
- ○ 7. While holding breath, remove inhaler from mouth
- ○ 8. Breathe out gently away from the inhaler
- 9. Slide the cover upwards as far as it will go, to cover the mouthpiece

Pressurised metered-dose inhaler (12 steps)

- ○ 1. Remove cap
- ○ 2. Check dose counter (if applicable)
- ○ 3. Hold inhaler upright and shake well
- ○ 4. Breathe out gently, away from the inhaler
- ○ 5. Put mouthpiece between teeth without biting and close lips to form good seal
- ○ 6. Start to breathe in slowly through mouth and, at the same time, press down firmly on canister
- ○ 7. Continue to breathe in slowly and deeply
- ○ 8. Hold breath for about 5 seconds or as long as comfortable
- ○ 9. While holding breath, remove inhaler from mouth
- ○ 10. Breathe out gently, away from the inhaler
- ○ 11. If an extra dose is needed, repeat steps 2 to 10
- ○ 12. Replace cap

Pressurised metered-dose inhaler plus spacer (15 steps)

Does the patient sometimes use their inhaler alone? ○ Yes ○ No

- ○ 1. Assemble spacer* (if necessary)
- ○ 2. Remove inhaler cap
- ○ 3. Check dose counter (if applicable)
- ○ 4. Hold inhaler upright and shake well
- ○ 5. Insert inhaler upright into spacer
- ○ 6. Put mouthpiece between teeth without biting and close lips to form good seal
- ○ 7. Breathe out gently, into the spacer
- ○ 8. Hold spacer level and press down firmly on inhaler canister once
- ○ 9. Breathe in slowly and deeply
- ○ 10. Hold breath for about 5 seconds or as long as comfortable
- ○ 11. While holding breath, remove spacer from mouth
- ○ 12. Breathe out gently
- ○ 13. Remove inhaler from spacer
- ○ 14. If an extra dose is needed, repeat steps 3 to 13
- ○ 15. Replace cap and disassemble spacer

*Plastic spacers should be pre-washed in warm water and dishwashing detergent (without rinsing), and air-dried before use.

Turbuhaler (12 steps)

- ○ 1. Unscrew and remove cover
- ○ 2. Check dose counter
- ○ 3. Keep inhaler upright while twisting grip
- ○ 4. Twist around and then back until click is heard
- ○ 5. Breathe out gently, away from the inhaler
- ○ 6. Place mouthpiece between teeth without biting and close lips to form a good seal. Do not cover the air vents
- ○ 7. Breathe in strongly and deeply
- ○ 8. Hold breath for about 5 seconds or as long as comfortable
- ○ 9. Remove inhaler from mouth
- ○ 10. Breathe out gently away from the inhaler
- ○ 11. If an extra dose is needed, repeat steps 2 to 10
- ○ 12. Replace cover

Adapted from NPS MedicineWise & NACA 2015; NACA 2008. Other devices are available for inhaled medicines – please see the manufacturer's Product Information for instructions.

- Demonstrate the correct technique and correct any specific errors that you identify.[1,2]
- Ask the patient to repeat the demonstration to check they have understood. If necessary, repeat your instruction until the patient has all the steps correct. Consider giving the patient a written record of any step(s) incorrectly performed during the initial demonstration.[1,2]

Even after training is provided, some patients will continue to have difficulties using inhalers properly. Based on the outcome of this inhaler technique review,[2] consider referral to the GP, as appropriate.

REFERENCES

1. NPS MedicineWise & National Asthma Council Australia (NACA). Asthma inhaler technique – device specific checklists. Available from: http://www.nps.org.au/__data/assets/pdf_file/0010/256195/asthma-inhaler-device-techiques-checklist.pdf (accessed March 17, 2015).

2. National Asthma Council Australia (NACA). Inhaler technique in adults with asthma or COPD. National Asthma Council Australia, Melbourne, 2008. URL: http://www.nationalasthma.org.au/uploads/publication/inhaler-technique-in-adults-with-asthma-or-copd.pdf (accessed May 2015).

For further information: visit http://www.nps.org.au/__data/assets/pdf_file/0010/256195/asthma-inhaler-device-techiques-checklist.pdf.

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Test your knowledge of preventer inhalers

Completed table:

Generic name(s)	Device type or name
Beclomethasone	Autohaler®/Metered dose inhaler
Budesonide	Turbuhaler®
Budesonide/eformeterol	Turbuhaler®/Rapihaler®
Ciclesonide	Metered dose inhaler
Fluticasone propionate	Accuhaler®/Metered dose inhaler
Fluticasone propionate/eformeterol	Metered dose inhaler
Fluticasone propionate/salmeterol	Accuhaler®/Metered dose inhaler
Fluticasone furoate/vilanterol	Ellipta®
Nedocromil sodium	Metered dose inhaler

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