Encouraging patients to take asthma medicines as agreed, and assessing patients’ adherence to medication
ABBREVIATIONS

CFC  chlorofluorocarbon  LAMA  long-acting muscarinic antagonist
COPD  chronic obstructive pulmonary disease  LTRA  leukotriene receptor antagonist
COX  cyclo-oxygenase  MBS  Medical Benefits Scheme
ED  emergency department  NIPPV  non-invasive positive pressure ventilation
EIB  exercise-induced bronchoconstriction  NSAIDs  nonsteroidal anti-inflammatory drugs
FEV1  forced expiratory volume over one second  OCS  oral corticosteroids
FVC  forced vital capacity  OSA  obstructive sleep apnoea
FSANZ  Food Standards Australia and New Zealand  PaCO  carbon dioxide partial pressure on blood gas analysis
GORD  gastro-oesophageal reflux disease  PaO2  oxygen partial pressure on blood gas analysis
HFA  formulated with hydrofluoroalkane propellant  PBS  Pharmaceutical Benefits Scheme
ICS  inhaled corticosteroid  PEF  peak expiratory flow
ICU  intensive care unit  pMDI  pressurised metered-dose inhaler or ‘puffer’
IgE  Immunoglobulin E  SABA  short-acting beta2-adrenergic receptor agonist
IV  intravenous  LABA  long-acting beta2-adrenergic receptor agonist
LTRA  leukotriene receptor antagonist  MBS  Medical Benefits Scheme
MBA  endogenous muscarinic antagonist  NIPPV  non-invasive positive pressure ventilation
NSAIDs  nonsteroidal anti-inflammatory drugs  OCS  oral corticosteroids
OSA  obstructive sleep apnoea  PaO2  oxygen partial pressure on blood gas analysis
PaCO  carbon dioxide partial pressure on blood gas analysis  PBS  Pharmaceutical Benefits Scheme
PaO2  oxygen partial pressure on blood gas analysis  PEF  peak expiratory flow
pMDI  pressurised metered-dose inhaler or ‘puffer’  SABA  short-acting beta2-adrenergic receptor agonist
LABA  long-acting beta2-adrenergic receptor agonist  TGA  Therapeutic Goods Administration

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ENDORSEMENT

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- The Royal Australian College of General Practitioners (RACGP)
- The Australian Primary Health Care Nurses Association (APNA)
- The Thoracic Society of Australia and New Zealand (TSANZ)

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Assessing and maximising patients' adherence to asthma treatment

Overview

Maximising the patient’s adherence to the medication regimen – as agreed after discussion of goals with the patient or carer – is essential to effective asthma management. Assessing and encouraging adherence should be considered at each encounter with patients and carers.

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Assessing patients’ adherence to asthma treatment

Recommendations

Do not assume the person is taking the dose prescribed most recently. Ask which asthma medicines the person is using, in a non-judgmental, empathic manner.

Table. Suggested questions to ask adults and older adolescents when assessing adherence to treatment

1. Many people don’t take their medication as prescribed. In the last four weeks:
   - how many days a week would you have taken your preventer medication? None at all? One? Two? (etc).
   - how many times a day would you take it? Morning only? Evening only? Morning and evening? (or other)
   - 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?


If the person is not using prescribed preventer, use non-judgemental questions to find out why.

How this recommendation was developed

Consensus
Based on clinical experience and expert opinion (informed by evidence, where available).

Consider whether any common barriers to correct use of medicines apply:

- misunderstanding purpose of medicines
- concerns about side effects
- taking wrong dose
- skipping doses to save on treatment costs
- incorrect inhaler technique
- poor perception of airflow limitation
- social pressure from peer group, employer, colleagues or family (e.g. expectation that should have grown out of asthma)
- beliefs about health that conflict with or undermine confidence in conventional asthma medicines.

How this recommendation was developed
Before considering any increase in dose or addition to treatment regimen (step up), check the patient’s adherence to the medication most recently prescribed.

**How this recommendation was developed**

**Consensus**
Based on clinical experience and expert opinion (informed by evidence, where available).

### More information

#### Adherence to preventer treatment: adults and adolescents

Most patients do not take their preventer medication as often as prescribed, particularly when symptoms improve, or are mild or infrequent. Whenever asthma control is poor despite apparently adequate treatment, poor adherence, as well as poor inhaler technique, are probable reasons to consider.

Poor adherence may be intentional and/or unintentional. Intentional poor adherence may be due to the person’s belief that the medicine is not necessary, or to perceived or actual adverse effects. Unintentional poor adherence may be due to forgetting or cost barriers.

Common barriers to the correct use of preventers include:

- being unable to afford the cost of medicines or consultations to adjust the regimen
- concerns about side effects
- interference of the regimen with the person’s lifestyle
- forgetting to take medicines
- lack of understanding of the reason for taking the medicines
- inability to use the inhaler device correctly due to physical or cognitive factors
- health beliefs that are in conflict with the belief that the prescribed medicines are effective, necessary or safe (e.g. a belief that the prescribed preventer dose is ‘too strong’ or only for flare-ups, a belief that asthma can be overcome by psychological effort, a belief that complementary and alternative therapies are more effective or appropriate than prescribed medicines, mistrust of the health professional).

Adherence to preventers is significantly improved when patients are given the opportunity to negotiate the treatment regimen based on their goals and preferences.¹

Assessment of adherence requires an open, non-judgemental approach.

Accredited pharmacists who undertake Home Medicines Reviews can assess adherence while conducting a review.

### Table. Suggested questions to ask adults and older adolescents when assessing adherence to treatment

1. **Many people don’t take their medication as prescribed. In the last four weeks:**
   - how many days a week would you have taken your preventer medication? None at all? One? Two? (etc).
   - how many times a day would you take it? Morning only? Evening only? Morning and evening? (or other)
   - 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?**
Home Medicines Review and MedsCheck

Home Medicines Review
A Home Medicines Review involves the patient, their GP, an accredited pharmacist and a community pharmacy. Referral (Medicare Item 900) may be either direct to an accredited pharmacist, or to a community pharmacy that uses the services of an accredited pharmacist.

The accredited pharmacist visits the patient at their home, reviews their medicine regimen and provides a report to the person's GP and usual community pharmacy. The GP and patient then agree on a medication management plan.

The aims of Home Medicines Review include detecting and overcoming any problems with the person’s medicines regimen, and improving the patient's knowledge and understanding of their medicines.

Patients could be eligible for a Home Medicines Review if they (any of):

- take more than 12 doses of medicine per day
- have difficulty managing their own medicines because of literacy or language difficulties, or impaired eyesight
- visit multiple specialists
- have been discharged from hospital in the previous four weeks
- have changed their medicines regimen during the past 3 months
- have experienced a change in their medical condition or abilities
- are not showing improvement in their condition despite treatment
- have problems managing their delivery device
- have problems taking medicines because of confusion, limited dexterity or poor eyesight.

MedsCheck
MedsCheck involves review of a patient’s medicines by a registered pharmacist within the pharmacy. Patients are eligible if they take multiple medicines, and they do not need a referral from a GP.

The pharmacist makes a list of all the person’s medicines and medication or monitoring devices, and discusses them with the patient to identify any problems. If necessary, the pharmacist refers any issues back to the person's GP or other health professional.

Psychosocial factors affecting asthma self-management
Psychosocial factors can affect asthma symptoms and outcomes in children and adults. These can include biological, individual, family and community-level factors, which can have synergistic effects in an individual with asthma. Mechanisms may include effects of stress on the immune system and effects of life circumstances on patients’ and families’ ability to manage asthma.

Relationships between psychosocial and cultural factors
Important influences on asthma outcomes include the person’s asthma knowledge and beliefs, confidence in ability to self-manage, perceived barriers to healthcare, socioeconomic status, and healthcare system navigation skills, and by the quality of interaction and communication between patient and healthcare provider. There is a complex interrelationship between:

- patient factors (e.g. health literacy, health beliefs, ethnicity, educational level, social support, cultural beliefs, comorbidities, mental health)
- healthcare provider factors (e.g. communication skills, teaching abilities, available time, educational resources and skills in working with people from different backgrounds)
healthcare system factors (e.g. the complexity of the system, the healthcare delivery model, the degree to which the system is oriented towards chronic disease management or acute care, and the degree to which the system is sensitive to sociocultural needs).

**Health literacy**

‘Health literacy’ refers to the individual’s capacity to obtain, process, and understand basic health information and services they need to make appropriate health decisions. A person’s level of health literacy is influenced by various factors including skills in reading, writing, numeracy, speaking, listening, cultural and conceptual knowledge.

Inadequate health literacy is recognised as a risk factor for poorer health outcomes and less effective use of health care services. Poor health literacy has been associated with poor asthma control, poor knowledge of medications, and incorrect inhaler technique. Aspects of health literacy that have been associated with poorer asthma outcomes in adults include reading skills, listening skills, numeracy skills, and combinations of these. Studies assessing the association between parents’ health literacy and children’s asthma have reported inconsistent findings. Overall, there is not enough evidence to prove that low health literacy causes poor asthma control or inadequate self-management.

Australian research suggests that there are probably many Australians with limited health literacy. It may be possible to identify some groups of patients more likely to have inadequate health literacy, such as people living in regions with low socioeconomic status, and those with low English literacy (e.g. people with limited education, members of some ethnic minorities, immigrants, and the elderly). However, even well-educated patients might have trouble with basic health literacy skills.

Attempts to assess every patient’s health literacy is impractical and may be embarrassing for the person and time-consuming for the health professional. Instead, it may be more effective for health professionals simply to assume that all patients have limited health literacy. Accordingly, all self-management skills need to be explained carefully, simply and repeatedly, and all written material should be clear and easy to read. Special consideration is needed for patients from culturally and linguistically diverse communities, including Aboriginal and Torres Strait Islander people.

**Psychosocial support and improving health literacy**

Psychosocial interventions that include asthma education may improve health-related quality of life for children and adolescents with asthma and their families. However, simply providing education might not improve a person’s health literacy, since it also depends on other factors like socioeconomic status, social support, and is influence by the provider and the healthcare system.

Asthma Australia provides personal support and information for people with asthma and parents of children with asthma through the Asthma Australia Information line by telephone on 1800 Asthma (1800 278 462) or online.

Go to: Asthma Australia

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**References**


Maximising patients’ adherence to asthma treatment

Recommendations

Ensure every patient has a written asthma action plan appropriate to their age and self-management capability.

How this recommendation was developed
Consensus
Based on clinical experience and expert opinion (informed by evidence, where available).

Check that patients and carers understand the dose regimen and the written asthma action plan.

How this recommendation was developed
Consensus
Based on clinical experience and expert opinion (informed by evidence, where available).

If adherence to preventer medicines is inadequate, explore barriers and motivating factors.

How this recommendation was developed
Consensus
Based on clinical experience and expert opinion (informed by evidence, where available).

Explain to young people that asthma medicines do not have any effects on sexual activity or fertility in the short-term or long-term.

How this recommendation was developed
Consensus
Based on clinical experience and expert opinion (informed by evidence, where available).

Advise pregnant women that good asthma control during pregnancy is a high priority, to protect the foetus as well as the mother. Explain that asthma medicines are used in pregnancy when the risks of poor asthma control outweigh the risks associated with medicines. If preventer therapy (e.g. low-dose inhaled corticosteroid) has been prescribed or is indicated, advise the woman to keep taking her preventer throughout pregnancy.

How this recommendation was developed
Consensus
Based on clinical experience and expert opinion (informed by evidence, where available), with particular reference to the following source(s):

- Ali and Ulrik, 2013
- Clifton et al. 2009
- Murphy and Gibson, 2011
- Murphy et al. 2005
- Murphy et al. 2006
- Murphy et al. 2011
- Namazy et al. 2012
For patients who have difficulty using their asthma medicines correctly, consider referral to an asthma educator, MedsCheck by a community pharmacist, or Home Medicines Review by an accredited pharmacist (if eligible) — particularly for those who need to take multiple medicines (e.g. for concurrent conditions). 

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More information

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