VERSION 1.2

MANAGEMENT OF ASTHMA

WRITTEN ASTHMA ACTION PLANS

Considerations for preparing and reviewing written asthma action plans for adults and children

ABOUT

This PDF is a print-friendly reproduction of the content included in the Management – Written asthma action plans section of the Australian Asthma Handbook at asthmahandbook.org.au/management/action-plans

Please note the content of this PDF reflects the Australian Asthma Handbook at publication of Version 1.2 (October 2016). For the most up-to-date content, please visit asthmahandbook.org.au

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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 hydrofluoralkane 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  LAMA  long-acting muscarinic antagonist
LABA  long-acting beta₂-adrenergic receptor agonist  TGA  Therapeutic Goods Administration

NATIONAL ASTHMA COUNCIL AUSTRALIA

ABN 61 058 044 634
Suite 104, Level 1, 153-161 Park Street South
Melbourne, VIC 3205, Australia
Tel: 03 9929 4333
Fax: 03 9929 4300
Email: nac@nationalasthma.org.au
Website: nationalasthma.org.au

ENDORSEMENT

The Australian Asthma Handbook has been officially endorsed by:

- 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)

SPONSORS

National Asthma Council Australia would like to acknowledge the support of the sponsors of Version 1.2 of the Australian Asthma Handbook:

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The information and treatment protocols contained in the Australian Asthma Handbook are intended as a general guide only and are not intended to avoid the necessity for the individual examination and assessment of appropriate courses of treatment on a case-by-case basis. To the maximum extent permitted by law, acknowledging that provisions of the Australia Consumer Law may have application and cannot be excluded, the National Asthma Council Australia, and its employees, directors, officers, agents and affiliates exclude liability (including but not limited to liability for any loss, damage or personal injury resulting from negligence) which may arise from use of the Australian Asthma Handbook or from treating asthma according to the guidelines therein.
Written asthma action plans

Overview

Every adult and child with asthma should have their own written asthma action plan that provides clear instructions on how to adjust medication in response to asthma symptoms, and when and how to get medical care, including during an emergency.

Written asthma action plans should be individualised for the patient (e.g. clearly naming the medicines the person uses, using words they will understand, identifying individual signs of flare-ups). They should be reviewed regularly.

► See: Providing self-management support for adults
See: Providing asthma management education for parents and children
See: Supporting adolescents and young adults to self-manage their asthma

In this section

**Adults**
Preparing written asthma action plans for adults

**Children**
Preparing written asthma action plans for children
Preparing written asthma action plans for adults

Recommendations

For every person with asthma, develop an individualised written asthma action plan that is appropriate for their treatment regimen, asthma severity, culture, language, literacy level, and ability to self-manage.

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

A written asthma action plan should include all of the following:

- the person’s usual asthma and allergy medicines
- clear instructions on how to change medication (including when and how to start a course of oral corticosteroids)
- when and how to get medical care, including during an emergency
- name of the person preparing the plan
- the date.

Note: A range of templates is available from National Asthma Council Australia’s Asthma Action Plan Library.

Table. Options for adjusting medicines in a written asthma action plan for adults

Please view and print this figure separately: https://www.asthmahandbook.org.au/table/show/42

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

Ensure the person has a prescription for any medicines they may need to follow their action plan (e.g. prednisolone). Explain which medicines they should have available at all times, or when to fill prescriptions to have medicines available (e.g. before travel).

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

Review the written asthma action plan every year, and whenever there is a significant change in treatment or asthma status.

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

When reviewing a written asthma action plan, consider the following:

- Does the person know where their written asthma action plan is?
- Have they used it? If so, any problems?
• Are listed medicines and instruction for actions current and appropriate?
• Are contact details for medical care and acute care up to date?

**Table. Checklist for reviewing a written asthma action plan**

- Ask if the person (or parent) knows where their written asthma action plan is.
- Ask if they have used their written asthma action plan because of worsening asthma.
- Ask if the person (or parent) has had any problems using their written asthma action plan, or has any comments about whether they find it suitable and effective.
- Check that the medication recommendations are appropriate to the person’s current treatment.
- Check that all action points are appropriate to the person’s level of recent asthma symptom control.
- Check that the person (or parent) understands and is satisfied with the action points.
- If the written asthma action plan has been used because of worsening asthma more than once in the past 12 months: review the person’s usual asthma treatment, adherence, inhaler technique, and exposure to avoidable trigger factors.
- Check that the contact details for medical care and acute care are up to date.

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**How this recommendation was developed**

Consensus

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

For people who are unable to read a written asthma action plan easily due to poor eyesight or when written English is inappropriate, consider a pictorial action plan.

**How this recommendation was developed**

Consensus

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

For every person with a history of anaphylaxis (or risk factors), also provide a written anaphylaxis plan.

**How this recommendation was developed**

Consensus

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

**More information**

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**Written asthma action plans for adults**

Every person with asthma should have their own written asthma action plan.

When provided with appropriate self-management education, self-monitoring and medical review, individualised written action plans consistently improve asthma health outcomes if they include two to four action points, and provide instructions for use of both inhaled corticosteroid and oral corticosteroids for treatment of flare-ups. Written asthma action plans are effective if based on symptoms or personal best peak expiratory flow (not on percentage predicted).

**How to develop and review a written asthma action plan**

A written asthma action plan should include all the following:

- a list of the person’s usual medicines (names of medicines, doses, when to take each dose) – including treatment for related conditions such as allergic rhinitis
- clear instructions on how to change medication (including when and how to start a course of oral corticosteroids) in all the following situations:
• when asthma is getting worse (e.g. when needing more reliever than usual, waking up with asthma, more symptoms than usual, asthma is interfering with usual activities)
• when asthma symptoms get substantially worse (e.g. when needing reliever again within 3 hours, experiencing increasing difficulty breathing, waking often at night with asthma symptoms)
• when peak flow falls below an agreed rate (for those monitoring peak flow each day)
• during an asthma emergency.

• instructions on when and how to get medical care (including contact telephone numbers)
• the name of the person writing the action plan, and the date it was issued.

| Table. Options for adjusting medicines in a written asthma action plan for adults |
| Please view and print this figure separately: https://www.asthmahandbook.org.au/table/show/42 |

<table>
<thead>
<tr>
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<td>• Check that the contact details for medical care and acute care are up to date.</td>
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**Templates for written asthma action plans**

Templates are available from National Asthma Council Australia:

• National Asthma Council Australia colour-coded plan, available as a printed handout that folds to wallet size and as the Asthma Buddy smartphone application
• Asthma Cycle of Care asthma action plan
• A plan designed for patients using budesonide/formoterol combination as maintenance and reliever therapy
• Remote Indigenous Australian Asthma Action Plan
• Every Day Asthma Action Plan (designed for remote Indigenous Australians who do not use written English – may also be useful for others for whom written English is inappropriate).

Some written asthma action plans are available in community languages.

Software for developing electronic pictorial asthma action plans\(^4\) is available online.

Go to: National Asthma Council Australia’s [Asthma Action Plan Library](#)

Download: Imperial College London’s [Electronic Asthma Action Plan (ZIP/9.9 MB)](#)

**References**

# Table. Options for adjusting medicines in a written asthma action plan for adults

<table>
<thead>
<tr>
<th>Usual treatment</th>
<th>Options for adjustments when asthma worsening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option 1</td>
</tr>
<tr>
<td><strong>Any treatment (applies to all regimens)</strong></td>
<td>Increase reliever as needed in response to symptoms</td>
</tr>
<tr>
<td><strong>Short-acting beta&lt;sub&gt;2&lt;/sub&gt;-agonist reliever only (no preventer)</strong></td>
<td>If symptoms continue to worsen, start short course prednisone (e.g. 37.5–50 mg each morning for 5–10 days)</td>
</tr>
<tr>
<td><strong>ICS-only preventer</strong></td>
<td>Increase dose early (e.g. multiply dose by 4) for 7–14 days §</td>
</tr>
<tr>
<td><strong>ICS/LABA combination</strong></td>
<td><strong>Budesonide/formoterol (Symbicort) maintenance-and-reliever regimen</strong></td>
</tr>
<tr>
<td></td>
<td>Take extra doses of budesonide/formoterol as needed to relieve symptoms, up to a maximum of 72 mcg formoterol per day (12 actuations of 100/6 mcg or 200/6 mcg via dry-powder inhaler or 24 actuations of 50/3 mcg or 100/3 mcg via pressurised metered-dose inhaler per day) No more than 6 actuations at one time</td>
</tr>
<tr>
<td></td>
<td>Increase dose of budesonide/formoterol up to a maximum of 72 mcg formoterol daily for 7–14 days</td>
</tr>
<tr>
<td><strong>Fluticasone furoate/vilanterol (Breo)</strong></td>
<td>If using medium dose (100/25 mcg): Replace with highest strength formulation of</td>
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### Usual treatment

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<tbody>
<tr>
<td></td>
<td>Option 1</td>
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<tr>
<td></td>
<td>same medicine (fluticasone furoate/vilanterol 200/25 mcg one inhalation once daily) for 7–14 days</td>
</tr>
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#### Fluticasone propionate/formoterol (Flutiform)

- **If using 50/5 mcg:** Replace with highest strength formulation of same medicine (fluticasone propionate/formoterol 250/10 mcg) for 7–14 days
- **If using 125/5 mcg:** Increase dose (e.g. multiply dose by 2) to achieve equivalent of highest strength formulation of same medicine (fluticasone propionate/formoterol 250/10 mcg) for 7–14 days
- **If using 250/10 mcg:** Increase ICS dose (e.g. multiply ICS dose by 4) by adding a separate fluticasone propionate inhaler for 7–14 days §

#### Fluticasone propionate/salmeterol (Seretide)

- Increase ICS dose (e.g. multiply ICS dose by 4 †) by adding a separate fluticasone propionate/salmeterol inhaler for 7–14 days §
- Increase fluticasone propionate/salmeterol if necessary to achieve total daily dose of salmeterol 100 mcg

|                 | Start short course prednisone (e.g. 37.5–50 mg each morning for 5–10 days) in addition to usual dose of fluticasone propionate/formoterol |

* Second-line options for clinicians to consider when writing instructions for patients. The individual’s written asthma action plan should contain only one clear action for each situation.

† Increase only the fluticasone propionate dose (e.g. by prescribing a separate fluticasone propionate inhaler for 7–14 days in addition to the combination inhaler). The salmeterol dose should not be increased above 100 mcg/day.

§ This option may be preferred over oral corticosteroids for patients who experience significant mood effects or other significant side-effects (e.g. hyperglycaemia) with oral corticosteroids. It is unsuitable for patients who cannot tolerate increased risk of dysphonia (e.g. singers, actors, teachers) or who cannot afford an additional inhaler. For fluticasone furoate (Arnuity), the dose increase should take into account the fact that available formulations are medium and high doses, and that the inhaler must be discarded one month after opening.

**Notes**

The table provides options for adjustments the patient can make when asthma is getting worse (needing more reliever than usual, waking up with asthma, more symptoms than usual, asthma is interfering with usual activities, or when the use of...
reliever is not achieving rapid relief from symptoms). After choosing the most suitable strategies for the individual, the clinician should translate these into clear, easy-to-follow instructions in the person’s written asthma action plan.

For some preventer formulations, the suggested option may result in doses above those recommended in TGA-approved product information. If high doses are needed, they should be continued for only 7–14 days then reduced.

Templates for written asthma action plans (including templates designed for people using various preventer regimens) are available from the National Asthma Council Australia.

**Sources**


**Note:** PBS status as at October 2016: Fluticasone furoate is not subsidised by the PBS, except in combination with vilanterol.

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Preparing written asthma action plans for children

Recommendations

Provide a written asthma action plan for all children with asthma, and train parents (and older children) how to follow it.

How this recommendation was developed

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

Review the child’s written asthma action plan every 6 months, and whenever asthma control status changes significantly or medicines are changed or stopped.

Table. Checklist for reviewing a written asthma action plan

- Ask if the person (or parent) knows where their written asthma action plan is.
- Ask if they have used their written asthma action plan because of worsening asthma.
- Ask if the person (or parent) has had any problems using their written asthma action plan, or has any comments about whether they find it suitable and effective.
- Check that the medication recommendations are appropriate to the person’s current treatment.
- Check that all action points are appropriate to the person’s level of recent asthma symptom control.
- Check that the person (or parent) understands and is satisfied with the action points.
- If the written asthma action plan has been used because of worsening asthma more than once in the past 12 months: review the person’s usual asthma treatment, adherence, inhaler technique, and exposure to avoidable trigger factors.
- Check that the contact details for medical care and acute care are up to date.

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How this recommendation was developed

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

Provide a plan for the child’s school or childcare centre.

Go to: Asthma Australia’s Asthma care plan for education and care services

How this recommendation was developed

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

More information

Written asthma action plans for children
Every child with asthma should have their own written asthma action plan.

A systematic review found that the use of written asthma action plans significantly reduces the rate of visits to acute care facilities, the number of school days missed and night-time waking, and improves symptoms.\(^1\) Symptom-based plans were more effective than peak flow-based plans for reducing the risk of acute care visits in children and adolescents.\(^1\)

Written asthma action plans that are based on symptoms appear to be more effective than action plans based on peak expiratory flow monitoring for children and adolescents.\(^1\)

A written asthma action plan should include all the following:

- A list of the child's usual medicines (names of medicines, doses, when to take each dose) – including treatment for related conditions such as allergic rhinitis
- Clear instructions on what to do in all the following situations:
  - When asthma is getting worse (e.g. when needing more reliever than usual, waking up with asthma, more symptoms than usual, asthma is interfering with usual activities)
  - When asthma symptoms get substantially worse (e.g. when needing reliever again within 3 hours, experiencing increasing difficulty breathing, waking often at night with asthma symptoms)
  - During an asthma emergency.
- Instructions on when and how to get medical care (including contact telephone numbers)
- The name and contact details of the child's emergency contact person (e.g. parent)
- The name of the person writing the action plan, and the date it was issued.

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- Children's written asthma action plans.

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