

## THE DIAGNOSIS AND TREATMENT OF ADULT ASTHMA

The purpose of the guideline is to provide an evidence-based summary of the diagnostic management and treatment options available for asthma in the adult population of New Zealand.

### KEY MESSAGES

#### *Diagnosis*

- The key diagnostic indicators are a history of cough, wheeze and shortness of breath and evidence of reversible airflow obstruction, either spontaneously over time or in response to treatment.
- Asthma attacks with acute wheezing and reduced peak expiratory flow rate are highly specific for asthma.
- Single peak expiratory flow rate (PEFR) recordings have little diagnostic value, but PEFR variability of greater than 15% is highly specific for asthma.

#### *Pharmacotherapy*

- There are no clinically significant differences between devices for inhaled medication.
- Inhaled corticosteroids have a key role in reducing symptoms, improving lung function, slowing the rate of decline, and reducing hospital admissions and mortality.
- Most people with asthma can be managed on low to moderate doses of inhaled corticosteroids. Inhaled corticosteroids should be started in low doses and increased where necessary to achieve control, then back-titrated to the lowest effective dose.
- Long-acting  $\beta_2$ -agonists in moderate to severe asthma improve day and night symptom control, improve lung function and reduce exacerbation rate.
- Theophylline is an effective third line therapy.
- Ipratropium, used in combination with salbutamol, improves clinical outcomes when used early in acute asthma.
- Spacers plus metered dose inhalers are an effective alternative to nebulised therapy in mild to moderate exacerbations.

#### *Non-pharmacological treatments*

- In adults with allergic asthma, in whom there is evidence of house dust mite sensitivity, barrier methods to control exposure to the allergen can be beneficial.
- Use of environmental approaches such as miticidal agents, air filtration devices, special vacuuming, conventional or steam cleaning of carpet and household furnishings, or domestic mechanical ventilation and heat recovery is only of benefit when there is an adult with asthma known to be atopic in the household.
- Immunotherapy reduces asthma symptoms and use of medication in adults with allergic asthma, but its efficacy relative to other therapies is unknown, and there are serious risks associated with its use.

#### *Education*

- Asthma initiatives by Māori providers for Māori must, to sustain the benefits, be ongoing programmes, rather than short-term interventions.
- A structured programme of education, self-management and self-monitoring strategies, written information and a written self-management plan improves outcomes for adults with asthma.
- Adequate education in and regular review of use of inhaler devices to check competency (to ensure effective delivery) should be provided for people with asthma.

## GET THE FULL ASTHMA REPORT

Full references and details of the evidence summaries are available in the complete guideline. An electronic copy of the full report can be **downloaded** free of charge from the New Zealand Guidelines Group website, [www.nzgg.org.nz](http://www.nzgg.org.nz) or a printed copy is available from [info@nzgg.org.nz](mailto:info@nzgg.org.nz), or PO Box 10-665, Wellington, New Zealand.

## OVERVIEW

Asthma is a chronic condition that affects a significant proportion of New Zealanders, with the overall incidence rising. It is a significant cost to the New Zealand health care system.

This guideline addresses the best practice for the treatment of asthma in the general adult population – that is, people 16+ years of age. This guideline does not address special subgroups that may require different treatment such as children, pregnant and/or lactating women or the elderly.

A multidisciplinary group of professionals and consumers was convened as the guideline development team. The New Zealand Health Technology Assessment group (NZHTA) was engaged to provide technical support in the search and critical appraisal of the literature.

A systematic critical review of the selected literature published from 1 January 1997 to December 2000 was undertaken by the NZHTA in Christchurch and by the member(s) of the working group responsible for drafting the particular section of the guideline. Attempts were also made to identify and include unpublished work and conference abstracts. Where evidence was available from RCTs and systematic reviews, recommendations were based on these. Where there was a lack of evidence from high quality studies, then recommendations were based on the best available evidence or expert opinion.

The Asthma guideline development team agreed to rank the evidence according to the revised system of the Scottish Intercollegiate Guidelines Network (SIGN). The SIGN Grading System for Recommendations in Evidence-Based Clinical Guidelines is a revised version of the system developed by the US Agency for Health Care Policy and Research (AHCPR). More information on this grading system can be found at [www.sign.ac.uk](http://www.sign.ac.uk)

All information contained in this summary is based on a careful appraisal of the available research evidence. For details of the supporting evidence and information on the grades of these recommendations, please refer to the full guideline at [www.nzgg.org.nz](http://www.nzgg.org.nz)

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The guideline was developed under the auspices of the New Zealand Guidelines Group and received funding from the Ministry of Health.

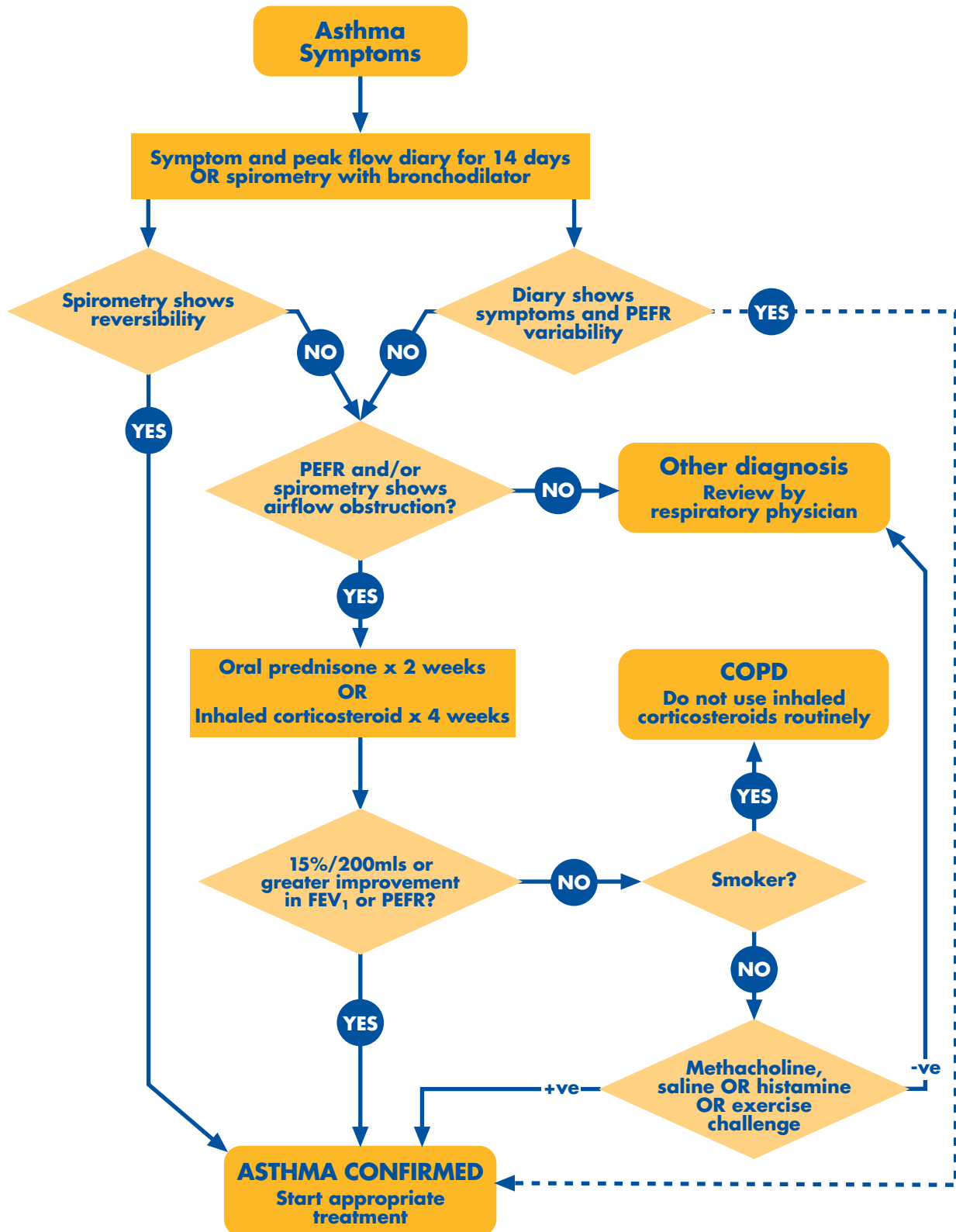
It is intended that the adult asthma guideline will be reviewed in 2005 if new evidence becomes available. An additional guideline on paediatric asthma is being developed by the Paediatric Society.

## ENDORSEMENTS

This guideline has received endorsement by the NZGG and the following organisations:



# DIAGNOSIS ALGORITHM

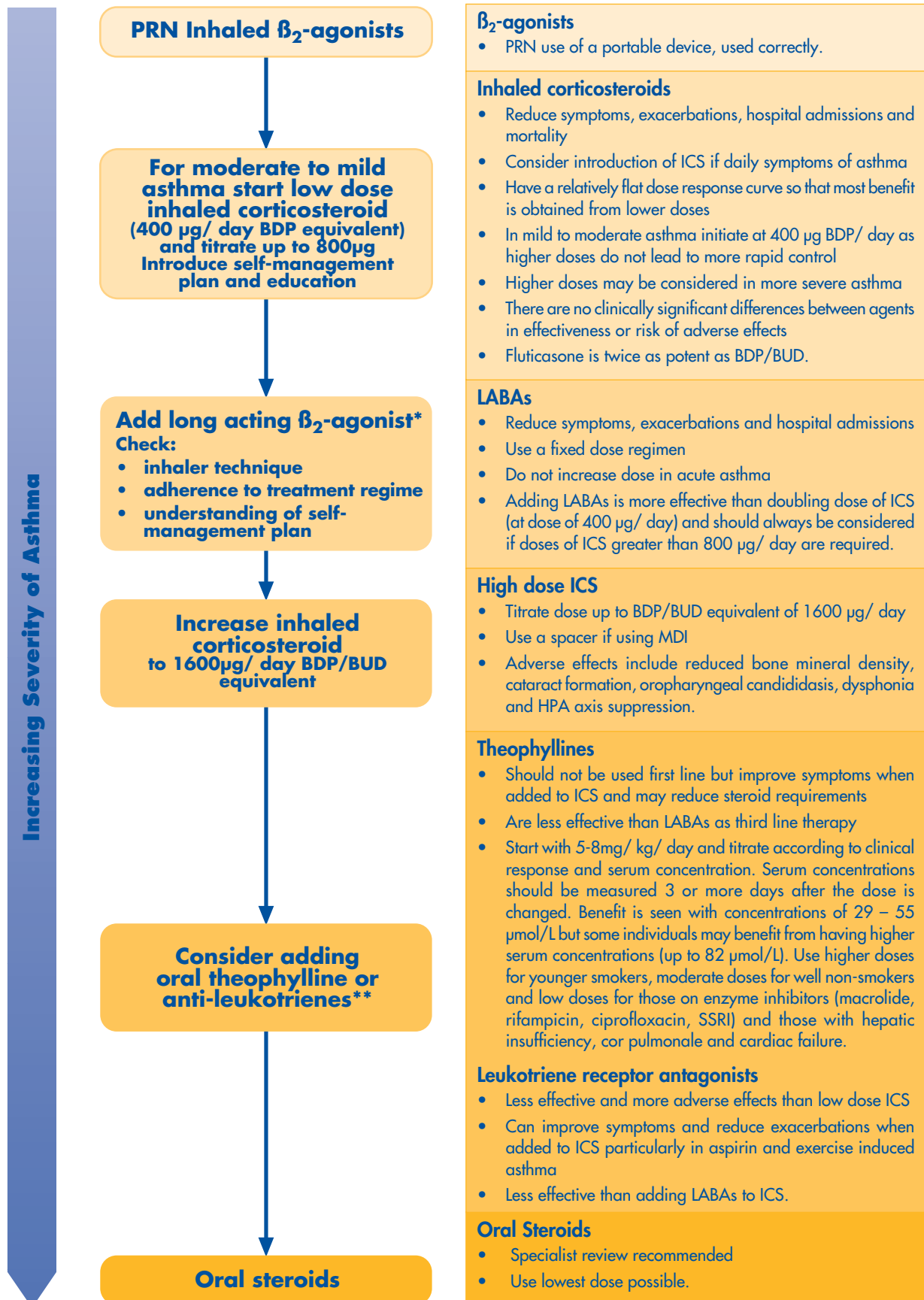


## ABBREVIATIONS

BDP	beclomethasone dipropionate
BUD	budesonide
COPD	Chronic obstructive pulmonary disease
FEV <sub>1</sub>	Forced expiratory volume
ICS	Inhaled corticosteroids
LABAs	Long-acting $\beta_2$ -agonists
MDI	Metered dose inhaler
PEFR	Peak expiratory flow rate

# MANAGEMENT OF CHRONIC ASTHMA ALGORITHM

This is a stepwise approach to asthma, although adults newly diagnosed with asthma may begin treatment at differing points in this algorithm depending on the severity of their asthma.



\* For Pharmac Access Criteria see the Pharmac Schedule at [www.pharmac.govt.nz](http://www.pharmac.govt.nz) or Appendix 3 of the full Adult Asthma guideline at [www.nzgg.org.nz](http://www.nzgg.org.nz)

\*\* Not currently on the pharmaceutical schedule in New Zealand.

# ACUTE SEVERE ASTHMA IN ADULTS

The addition of anticholinergic agents to salbutamol (IPRATROPIUM 0.5 mg via NEBULISER or 80 µg via SPACER) given early in acute asthma improves symptoms, lung function and reduces hospital admissions.

In mild to moderate acute asthma the use of a MDI plus spacer can produce outcomes at least equivalent to nebulisers.

## Criteria for admission to hospital

Individuals with any of these features should be immediately admitted to hospital.

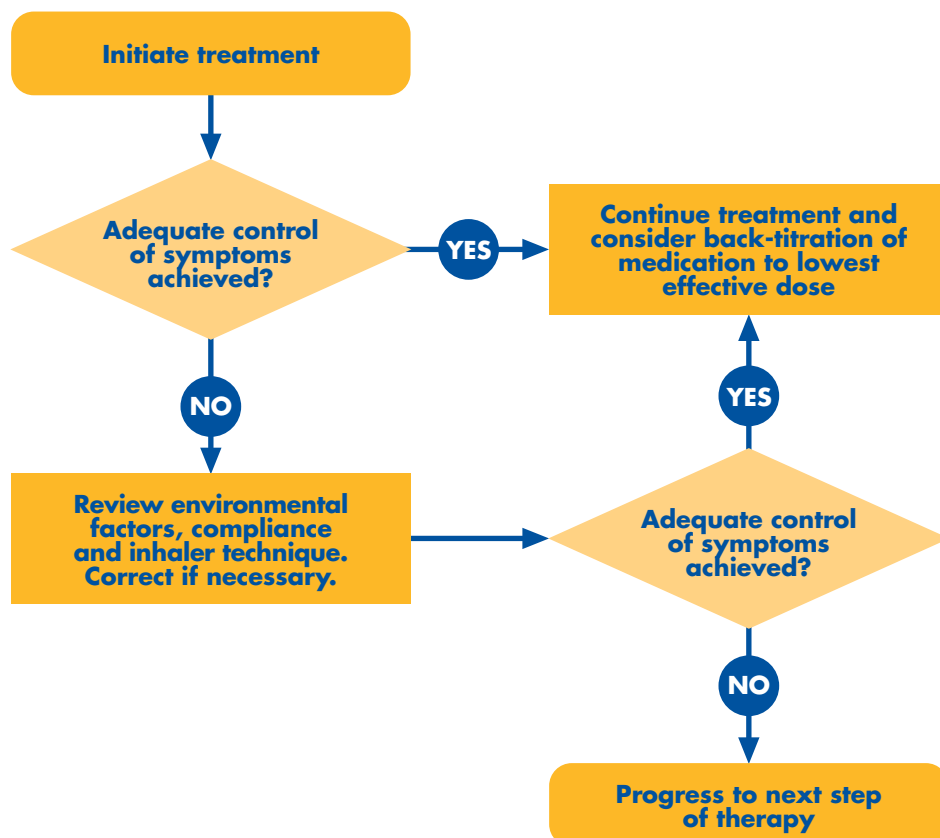
- Patients with any feature of a life threatening or near fatal attack
- Patients with any feature of a severe attack persisting after initial treatment.

Patients whose peak flow is greater than 75% best or predicted 2 hours after initial treatment may be discharged unless they have one of the following risk factors for poorer outcomes, when admission may be appropriate:

- Living alone/ socially isolated
- Psychological problems
- Physical handicap or learning difficulties
- Previous near fatal or brittle asthma
- Exacerbation despite adequate dose oral steroids pre presentation
- Presentation at night
- Pregnancy.

# MANAGEMENT OF CHRONIC ASTHMA

Process of review when initiating or considering an increase in medical management of chronic asthma



# ACUTE ASTHMA TREATMENT ALGORITHM

