



National
Asthma
Council AUSTRALIA

National Asthma Council Webinar Series

Adult Asthma Update in 2020

Session 4

Asthma Best Practice For Health Professionals

Supported by the Australian
Government Department of Health

Acknowledgment to Country

I acknowledge the traditional owners of the country on which we work and live and recognise their continuing connection to land, water and culture.

I pay my respects to Elders past, present and emerging.

Welcome

- Topics Covered Today
 - Australian Asthma Handbook
 - Adolescents and asthma
 - Diagnostic principles
 - Management principles
 - Written Asthma Action Plans
 - Acute medical management of asthma in Primary Care
 - Asthma and COVID 19 guidelines

Learning Objectives

- Define the pathophysiology of adult asthma
- Identify the steps involved in the diagnosis of adult asthma - referring to the Australian Asthma Handbook
- Describe the levels of asthma control in adults and ways to improve control
- Summarise the important information to be included in a Written Asthma Action Plan
- Define the steps in managing acute asthma in primary care

Australian Asthma Handbook

www.asthmahandbook.org.au

The screenshot shows the homepage of the Australian Asthma Handbook. At the top, there is a dark blue navigation bar with menu items: "Diagnosis", "Management", "Acute Asthma", and "Clinical Issues", each with a dropdown arrow. A search icon is located in the top right corner. The main content area features a large background image of a child swinging on a swing set. Overlaid on this image is the title "Australian Asthma Handbook" and the subtitle "The National Guidelines for Health Professionals". Below the title is a search bar with the placeholder text "Search for a symptom, resource or diagnosis" and a "Search" button. Underneath the search bar, there are "Popular Searches" for "Thunderstorm", "Older Adults", and "Prevention". Three icons represent "Diagnosis" (stethoscope), "Management" (clipboard with checkmark), and "Resources" (book icon). Below this is a "Recommended for you" section with a carousel of three articles: "Investigating asthma-like symptoms in adolescents and young adults", "Investigating new asthma-like symptoms in older adults", and "Diagnosing asthma in children".

National Asthma Council www.nationalasthma.org.au

The screenshot shows the homepage of the National Asthma Council Australia website. The browser address bar displays "nationalasthma.org.au". The site's logo is in the top left, with navigation links for "Council", "Handbook", and "Sensitive Choice". A dark blue navigation bar contains menu items: "Understanding Asthma", "Living with Asthma", "Health Professionals", "Asthma First Aid" (highlighted in pink), "About Us", "News & Events", and "Support Us".

The main content area features a large blue banner with the text "The National Asthma Council Australia" and the tagline "We are the national authority for asthma knowledge, setting the standard for asthma care." To the right is a photograph of a smiling female healthcare professional with a stethoscope.

Below the banner, there are two main promotional boxes. The left box, titled "National Asthma Council | Australian Asthma Handbook", highlights a "Major new edition" of "Australia's National Guidelines for Asthma Management" and states "Version 2.0 online now!". The right box, titled "COVID-19 and your asthma patients", notes that it's crucial for people with asthma to maintain good control as COVID-19 spreads and includes a "Learn more" link. Below this, another box titled "Celebrating respiratory nurses on International Nurses Day" acknowledges the work of nurses and includes another "Learn more" link.

The Windows taskbar at the bottom shows the search bar and various application icons. The system tray in the bottom right corner displays the date and time as "11/05/2020 1:30 PM".

Remember

- Asthma is defined clinically as the combination of:
 - excessive variation in lung function
 - variable respiratory symptoms

- Narrowing of the airway is due to:
 - Inflammation of the lining of the airway
 - Constriction of the smooth muscles in the walls of the airway
 - Increased mucus production

Adolescents... where do they fit?

The handbook refers to 'adolescents' as people aged approximately 12-18 years

But where do they fit in terms of Asthma diagnosis and management?

In general:

- Under 14 years use the diagnosing and management for children guidelines
- By around 14-16 years use the guidelines for adults

Adolescence...the challenges

- A time of rapid growth - physically, cognitively, emotionally and socially¹
- At risk for mental health issues to emerge
- Risky behaviours may become an issue (e.g. smoking, poor diet, physical inactivity, drug and alcohol use)²
- Asthma can worsen or improve during adolescence
- Less than one in five (18%) Australian adolescents have a written asthma action plan
- Only 28% have discussed their asthma with a GP in the previous 12 months
- Adherence to preventer medication is poor

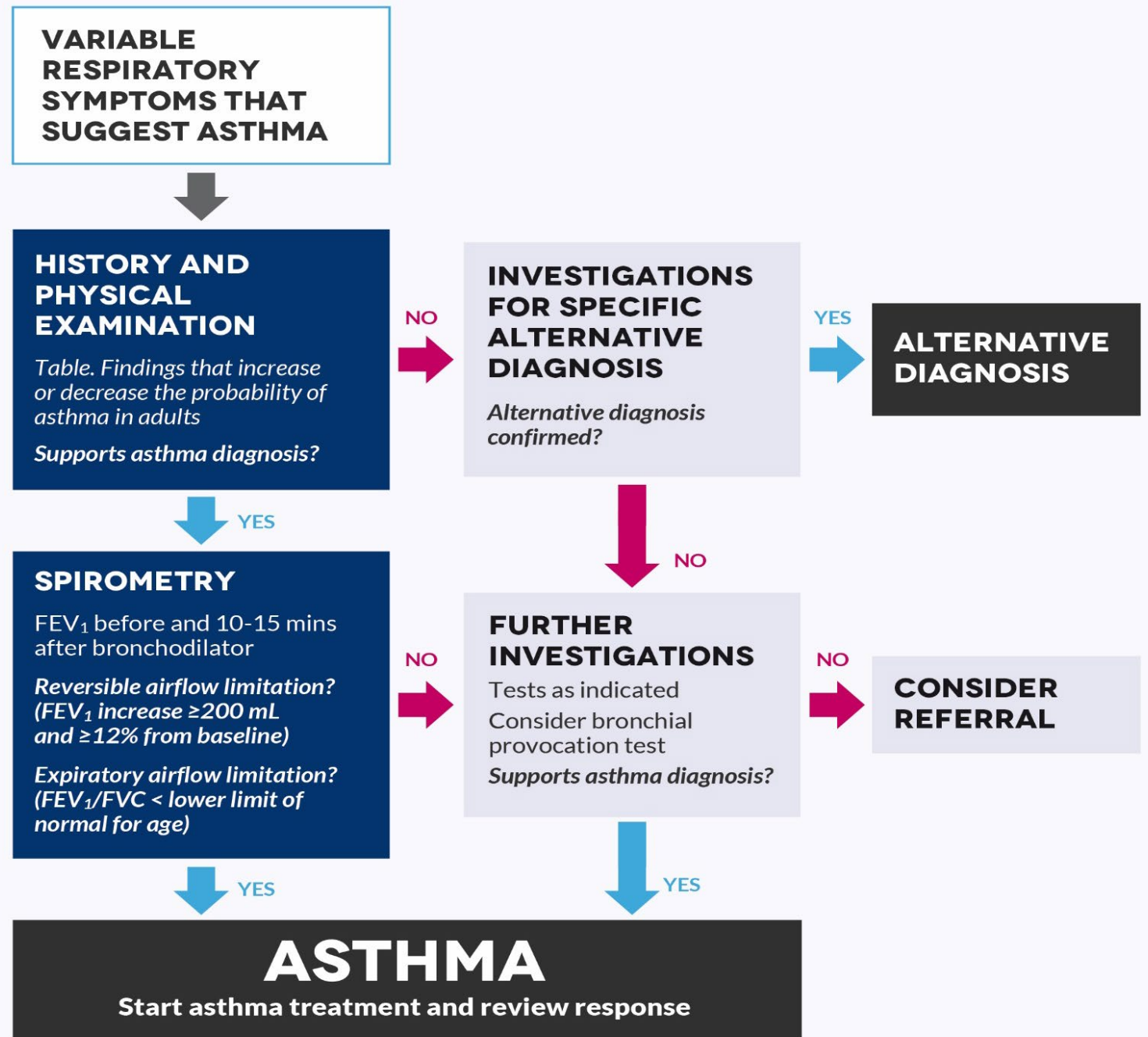
Adolescents... how can we help?

- Arrange to see them alone for part of the consultation
- Maintain confidentiality – discuss sensitive issues (smoking, drugs etc)
- Assess any psychosocial issues that may affect their asthma management (health beliefs, cultural, family, financial)
- Refer to appropriate services if required eg: mental health support

- In transition to adult care - good self-management cannot be assumed
 - Offer education – consider a peer led education program (Triple A)
 - Check inhaler use, especially reliever medication
 - Provide a written asthma action plan

Diagnosis of adult asthma

- History
- Physical examination
- Diagnostic testing
 - Spirometry
 - Allergy testing
 - IgE
 - Bronchial challenge test
- Treatment trial



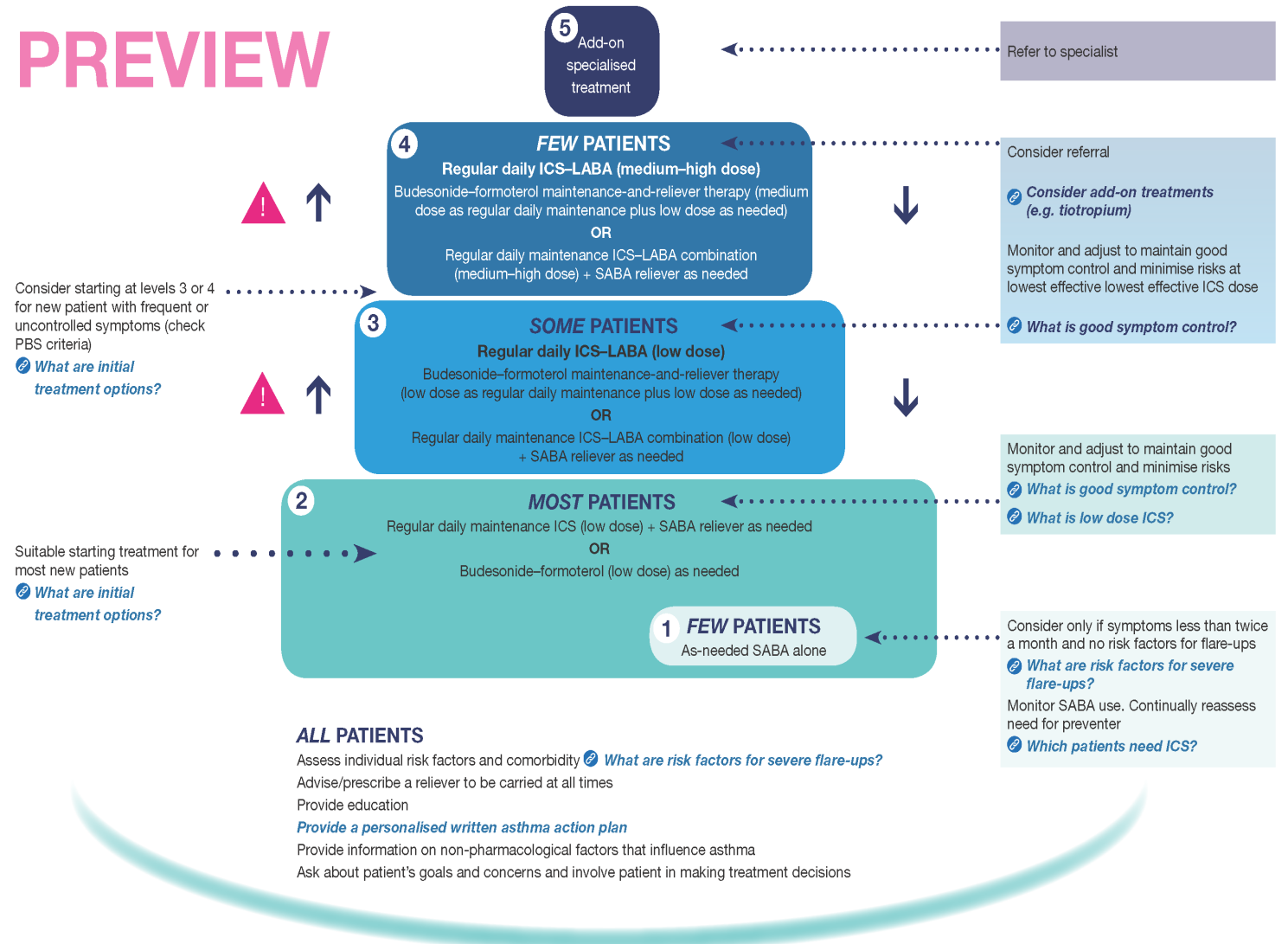
Step-by-step management

- Most people with asthma should be on preventer therapy
- Start preventer medication at the level most appropriate to the asthma severity
- Step preventer medication up or down as needed, as per guidelines
- The goal is to decrease treatment to the least medication necessary to maintain good asthma control
- Consider specialist referral if poor response to treatment regime
- All patients need:
 - reliever therapy
 - current Written Asthma Action Plan

Adult & adolescent medication options

- PREVIEW of the updated recommendations to the AAH guidelines due to be released in mid July
- Addresses the use of low dose Budesonide/formoterol combination on an as needed basis for those with mild asthma
- Can be used on an as needed basis for mild asthma as alternative to regular low dose ICS
- Encourages the use of preventer medication in those who may otherwise have only used a reliever
- Worldwide there is over reliance on reliever medications, which do not address airway inflammation

FIGURE Selecting and adjusting medication for adults and adolescents



ICS inhaled corticosteroid
LABA long-acting beta₂ agonist
SABA short-acting beta₂ agonist

Before you consider stepping up, check that:

- symptoms are due to asthma
- inhaler technique is correct
- adherence is adequate.

Consider stepping up if good control is not achieved despite good adherence and correct inhaler technique.

When asthma is stable and well controlled for 2-3 months, consider stepping down

Stepping down treatment in adults

What is meant by high, medium and low daily ICS doses in adults?

Inhaled corticosteroid	Daily dose (mcg)		
	Low	Medium	High
Beclometasone dipropionate ** (<i>QVar</i>)	100-200	250-400	>400
Budesonide (<i>Pulmicort, in Symbicort</i>)	200-400	500-800	>800
Ciclesonide (<i>Alvesco</i>)	80-160	240-320	>320
Fluticasone furoate* (<i>Breo, Arnuity Ellipta</i>)	50 (Arnuity only)	100	200
Fluticasone propionate (<i>Flixotide, Axotide, Salpus, CIPLA Seretide, Flutiform</i>)	100-200	250-500	>500

ASTHMA & COPD MEDICATIONS

SABA RELIEVERS



Bricanyl Turbuhaler †
terbutaline 500mcg



Ventolin Inhaler †
salbutamol 100mcg



Airomir Autohaler ‡
salbutamol 100mcg



Asmol Inhaler †
salbutamol 100mcg

NON STEROIDAL PREVENTERS



Singulair Tablet ‡
montelukast
4mg • 5mg • 10mg



Montelukast Tablet ‡
montelukast
4mg • 5mg • 10mg
Generic medicine suppliers



Intal Inhaler †
sodium cromoglycate
1mg • 5mg*
*Intal Forte



Tilade Inhaler †
nedocromil sodium
2mg

ICS PREVENTERS



Flixotide Inhaler †
fluticasone propionate
50mcg* • 125mcg • 250mcg
*Flixotide Junior



Fluticasone Cipla Inhaler †
fluticasone propionate
125mcg • 250mcg



Flixotide Accuhaler †
fluticasone propionate
100mcg* • 250mcg • 500mcg



Pulmicort Turbuhaler †
budesonide
100mcg • 200mcg • 400mcg



QVAR Inhaler †
beclomethasone
50mcg • 100mcg



QVAR Autohaler ‡
beclomethasone
50mcg • 100mcg

SAMA MEDICATION



Atrovent Metered Aerosol †
ipratropium 21mcg



Alvesco Inhaler †
ciclesonide
80mcg • 160mcg

ICS/LABA COMBINATIONS



Symbicort Turbuhaler ‡
budesonide/formoterol
100/6 • 200/6 • 400/12 #



DuoResp Spiromax ‡
budesonide/formoterol
200/6 • 400/12 #



Symbicort Rapihaler ‡
budesonide/formoterol
50/3 • 100/3 • 200/6 #



Flutiform Inhaler ‡
fluticasone propionate/formoterol
50/5 • 125/5 • 250/10



Seretide MDI ‡
fluticasone propionate/salmeterol
50/25 • 125/25 • 250/25 #



Fluticasone + Salmeterol Cipla Inhaler ‡
fluticasone propionate/salmeterol
125/25 • 250/25 #



Seretide Accuhaler ‡
fluticasone propionate/salmeterol
100/50 • 250/50 • 500/50 #



Breo Ellipta ‡
fluticasone furoate/vilanterol
100/25 # • 200/25

all units in mcg

LAMA MEDICATIONS



Spiriva Respimat # ‡
tiotropium 2.5mcg



Spiriva Handihaler #
tiotropium 18mcg



Bretaris Genuair #
acclidinium 322mcg



Seebri Breezhaler #
glycopyrronium 50mcg

ICS/LAMA/LABA



Incruse Ellipta #
umeclidinium 62.5mcg



Trelegy Ellipta ‡
fluticasone furoate/
umeclidinium/vilanterol
100/62.5/25

LAMA/LABA COMBINATIONS



Spiolto Respimat ‡
tiotropium/olodaterol
2.5/2.5



Brimica Genuair ‡
acclidinium/formoterol
340/12



Ultibro Breezhaler ‡
indacaterol/glycopyrronium
110/50



Anoro Ellipta ‡
umeclidinium/vilanterol
62.5/25

all units in mcg



This chart was developed independently by the National Asthma Council Australia with support from Boehringer-Ingelheim, GSK Australia, Mundipharma and Teva Pharma Australia

National Asthma Council Australia
leading the attack against asthma

RESOURCES

TREATMENT GUIDELINES

Australian Asthma Handbook: astmahandbook.org.au
COPD-X Plan: copdx.org.au

INHALER TECHNIQUE

How-to videos, patient and practitioner information
nationalasthma.org.au

Inhalers/MDIs should be used with a compatible spacer

LABA MEDICATIONS



Oxis Turbuhaler ‡
formoterol
4mcg • 12mcg



Serevent Accuhaler ‡
salmeterol
50mcg



Onbrez Breezhaler †
indacaterol
150mcg • 300mcg

Managing asthma in adults

- Confirm the diagnosis
- Assess asthma control (recent symptom control and risk factors)
- Manage comorbid conditions that affect asthma e.g. allergic rhinitis
- Regular review, use stepped approach to maintain good control of symptoms and prevent flare-ups, while minimising the dose of inhaled corticosteroids
- Provide information, skills and tools for self-management including:
 - A written asthma action plan
 - Training in correct use of medications, including inhaler technique
 - Information about triggers
 - Education and support to maximise medication adherence
 - Advice about avoidance of tobacco smoke, healthy eating, physical activity, healthy weight and immunisation

Asthma control in adults

Good control	Partial control	Poor control
<p>All of:</p> <ul style="list-style-type: none">• Daytime symptoms ≤ 2 days per week• Need for SABA reliever ≤ 2 days per week†• No limitation of activities• No symptoms during night or on waking	<p>One or two of:</p> <ul style="list-style-type: none">• Daytime symptoms > 2 days per week• Need for SABA reliever > 2 days per week†• Any limitation of activities• Any symptoms during night or on waking	<p>Three or more of:</p> <ul style="list-style-type: none">• Daytime symptoms > 2 days per week• Need for SABA reliever > 2 days per week†• Any limitation of activities• Any symptoms during night or on waking

† Not including [SABA](#) taken prophylactically before exercise. (Record this separately and take into account when assessing management.) nationalasthma.org.au

Reasons for Poor Asthma Control

- Medication related issues
 - Incorrect device technique, poor adherence to preventer therapy, preventer dose too low, over reliance on reliever therapy
- Uncontrolled trigger exposure
 - Rhinitis/allergen exposure, workplace/hobby exposure to chemicals, exposure to cigarette smoke
- Limited knowledge of asthma and self management
- No asthma action plan or regular asthma review
- Diagnostic issues:
 - It's not asthma

Asthma review

Regular review is recommended:

- Every 3-6 months when asthma is stable and well controlled
- 4 weeks after increasing the dose or types of medications to regain control of partially or poorly controlled asthma
- 4-6 weeks after decreasing medication doses or stepping down treatment
- Within 2-3 days of a hospital presentation, then again 4 weeks later
- Use validated questionnaires to assess recent symptom control
 - www.astmahandbook.org.au/resources/tools/control-questionnaires
- Perform spirometry to monitor lung function and response to treatment

Written Asthma Action Plans

Written asthma action plans improve outcomes

- Miss school/work less often
- Wake less at night and have improved symptom scores
- Written asthma action plans
 - Help to recognise worsening asthma
 - Increased symptoms, wheeze, cough, breathlessness especially waking from sleep
 - Give advice for adjusting medication
 - Advice when to see your Doctor
 - Advice when to call an Ambulance

All people with asthma need to have a current asthma action plan

Warning signs of an asthma flare-up

- More symptoms than usual – wheeze, cough, shortness of breath
- Needing reliever more than usual e.g. > 3 times within a week
- Waking at night with asthma
- Asthma is interfering with exercise

As symptoms worsen

- Needing reliever again within 3 hours
- Asthma interfering with normal activities

Refer to Asthma Action Plan

Management in General Practice

- Primary assessment
 - Mild/Moderate, severe or life-threatening
 - Pulse oximetry
- Bronchodilators
- Secondary assessment
- Management
- Follow up

Rapid primary assessment

Mild/Moderate	Severe	Life-threatening
<p>Can walk</p> <p>Speak whole sentences in one breath</p> <p>(for young children: can move around, speak in phrases)</p> <p>Oxygen sat >94%</p>	<p>Any of: Use of accessory muscles of respiration, tracheal tug, subcostal recession (abnormal breathing)</p> <p>Unable to complete sentences in one breath due to dyspnoea</p> <p>Obvious respiratory distress</p> <p>Oxygen sat 90-94%</p>	<p>Any of: Reduced consciousness or collapse</p> <p>Exhaustion</p> <p>Cyanosis</p> <p>Poor respiratory effort, soft/absent breath sounds</p> <p>Oxygen Sat <90%</p>

Management of mild/moderate

- Salbutamol MDI via a spacer
 - Adult 4–12 puffs
- Repeat 20-30mins for the first hour or sooner if necessary
- Monitor & maintain oxygen saturation
 - Between at least 93-95%
- Observe and monitor for at least 3 hours or
- Nil response
 - Call ambulance 000
 - Continue giving Salbutamol pMDI via a spacer
 - Nebulised salbutamol only if patient unable to breathe through spacer
 - Consider commencement of oral corticosteroids within the first hour

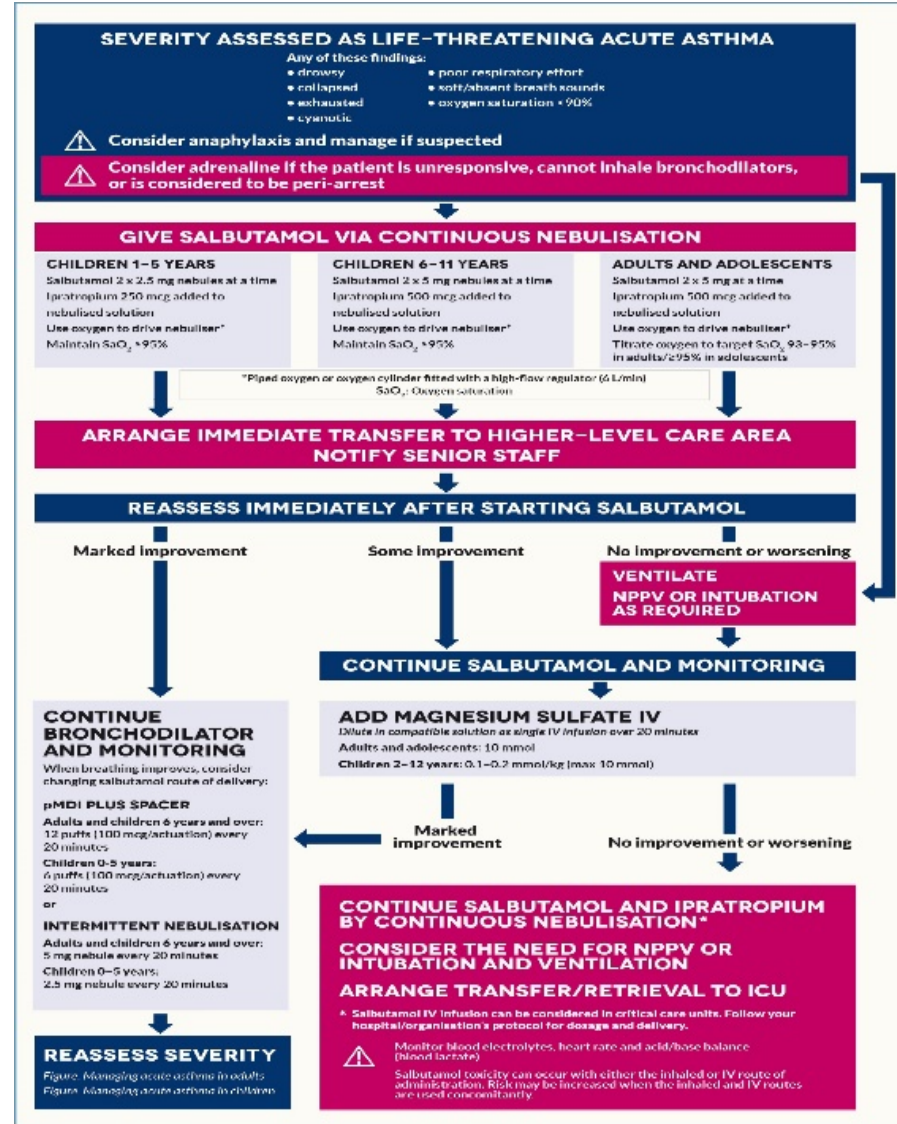
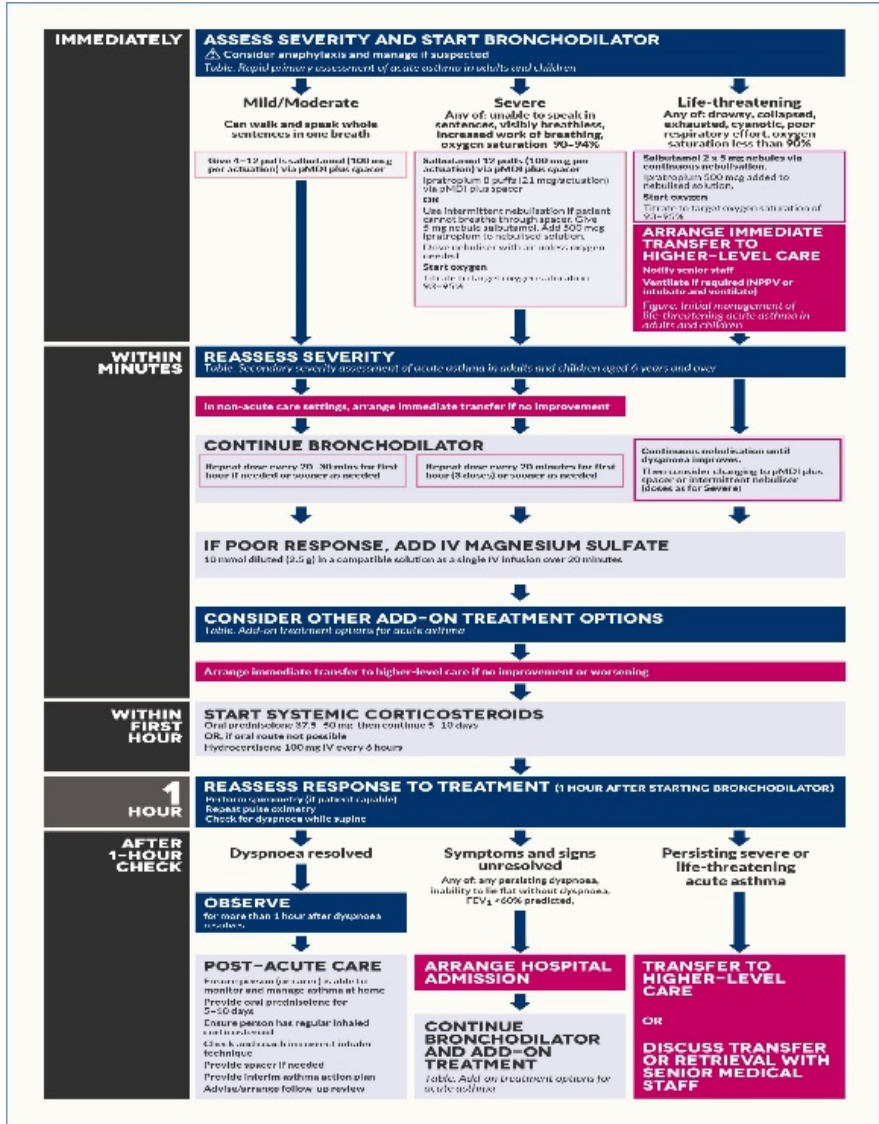
When is it an emergency?

- Severe respiratory distress
 - Use of accessory muscles
 - Impaired speech due to dyspnoea
 - Oxygen saturation < 90%
- Reliever response is not immediate and not sustained for at least 3 hours
- Worsening of symptoms despite treatment
- Asthma action plan indicates the need for urgent medical care
- Call an Ambulance 000

Medical management acute asthma in clinical setting

Acute asthma in adults

Life threatening acute asthma in adults & children



ACUTE ASTHMA

Clinical management

- Primary assessment
- Bronchodilators
- Secondary assessment
- Corticosteroids
- Response
- Add on treatment
- Post-acute care

First aid

Managing acute asthma in clinical settings

Overview

▲ Wheezing infants younger than 12 months old should not be treated for acute asthma. Acute wheezing in this age group is most commonly due to acute viral bronchiolitis.

Go to Paediatric Research in Emergency Departments International Collaborative (PREDICT) Asthma bronchitis guidelines

Advice should be obtained from a paediatric respiratory physician or paediatrician before administering short-acting beta2 agonists, systemic corticosteroids or inhaled corticosteroids to an infant.

Acute asthma management in children, adolescents and adults is based on:

- assessing severity (mild/moderate/severe or life-threatening) while starting bronchodilator treatment immediately
- administering oxygen therapy if peripheral capillary oxygen saturation measured by pulse oximetry (SpO₂) is less than 92% in adults or less than 95% in children
- conducting observations and assessments (when appropriate, based on clinical priorities determined by baseline severity)
- administering systemic corticosteroids within the first hour of treatment
- repeatedly reassessing response to treatment and either continuing treatment or adding on treatments, until acute asthma has resolved or patient has been transferred to an intensive care unit or admitted to hospital
- observing the patient for at least 3 hours after respiratory distress or increased work of breathing has resolved
- providing post-acute care and arranging follow-up to reduce the risk of future flare-ups

Figure: Managing acute asthma in adults

Figure: Managing acute asthma in children

Figure: Initial management of life-threatening acute asthma in adults and children

Emergency management of life-threatening episode- adult

- Oxygen driven Salbutamol via continuous nebulisation
 - ≥ 6 years x 2 5mg nebule
- Monitor & maintain oxygen saturation
 - Target adults: 93-95%
- Arrange immediate transfer to emergency department
 - If poor response to salbutamol add nebulised ipratropium bromide 500 mcgms
 - If no improvement or worsening add IV magnesium sulphate
- When dyspnoea improves, consider changing to salbutamol via MDI plus spacer or intermittent nebuliser every 20 mins

Follow up after acute flare up

Initial review in 2-3 days, comprehensive assessment within 2 weeks

- Review recent flare up/attack
- Try to identify trigger factors associated
- Review medication regime
 - Preventer use and check adherence
 - Has reliever available
 - Check device technique
- Provide a follow up written asthma action plan
- Review self management and action plan use
- Use spirometry to monitor lung function
- Review and modify the treatment plan as necessary

Asthma and COVID-19

Refer to Australian Asthma Handbook for reference

- Diagnostic challenge- asthma or flare up or COVID?
- Advise to continue with current asthma medications, including inhaled corticosteroids.
- Only use oral steroids for severe flare ups as indicated
- Avoid using a nebuliser- ***a well fitting mask and spacer with puffer is preferred***
- Advise not to share any medications or spacers even between family members
- Advise to have medications handy- reliever therapy as per action plan
- Check everyone with asthma has a current written asthma action plan – telehealth can be used
- Avoid performing spirometry unless urgent

Resources:

- www.asthmahandbook.org.au
 - current Australian asthma guidelines- online resource
- www.nationalasthma.org.au
 - Videos, brochures, charts- free to order online
- www.sensitivechoice.com
 - Consumer resources, information

Health Professional Network: nationalasthma.org.au

Twitter: [@asthmacouncilau](https://twitter.com/asthmacouncilau)

Facebook: [National Asthma Council Australia](https://www.facebook.com/NationalAsthmaCouncilAustralia)