

National Asthma Council Webinar Series

Asthma update in 2020

Session 1

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
 - Asthma pathophysiology
 - Triggers
 - Diagnostic principles
 - Management principles
 - Written Asthma Action Plans
 - Asthma and telehealth
 - Asthma and COVID 19 guidelines

Learning Objectives

- Define the pathophysiology of asthma
- Identify the steps involved in the diagnosis of asthma - referring to the Australian Asthma Handbook
- Summarise the important information to be included in a Written Asthma Action Plan

Australian Asthma Handbook

www.asthmahandbook.org.au

The screenshot shows the homepage of the Australian Asthma Handbook. At the top is a dark blue navigation bar with links for 'Diagnosis', 'Management', 'Acute Asthma', and 'Clinical Issues', each followed by a dropdown arrow. A search icon is on the right. The main header area features a background image of a child swinging. The title 'Australian Asthma Handbook' is centered, with the subtitle 'The National Guidelines for Health Professionals' below it. A search bar with the placeholder text 'Search for a symptom, resource or diagnosis' and a 'Search' button is positioned below the subtitle. Underneath the search bar, 'Popular Searches:' are listed: 'Thunderstorm', 'Older Adults', and 'Prevention'. Three icons represent 'Diagnosis' (stethoscope), 'Management' (clipboard with pulse line), and 'Resources' (book). A 'Recommended for you' section follows, with navigation arrows. It contains three featured articles: 'Investigating asthma-like symptoms in adolescents and young adults' (with a photo of a woman), 'Investigating new asthma-like symptoms in older adults' (with a photo of a man), and 'Diagnosing asthma in children' (with a photo of a smiling child).

National Asthma Council

www.nationalasthma.org.au

National Asthma Council Australia

Council • Handbook • Sensitive Choice

Understanding Asthma • Living with Asthma • Health Professionals • **Asthma First Aid** • About Us • News & Events • Support Us

The National Asthma Council Australia

We are the national authority for asthma knowledge, setting the standard for asthma care.

Australian Asthma Handbook

Major new edition

Australia's National Guidelines for Asthma Management

Version 2.0 online now!

COVID-19 and your asthma patients

It's crucial for people with asthma to maintain good asthma control as novel coronavirus (COVID-19) spreads.

[Learn more →](#)

Celebrating respiratory nurses on International Nurses Day

This month, we're acknowledging the important work of nurses and sharing stories from those working in respiratory care.

[Learn more →](#)

National Asthma Council AUSTRALIA

11/05/2020

Asthma in Australia

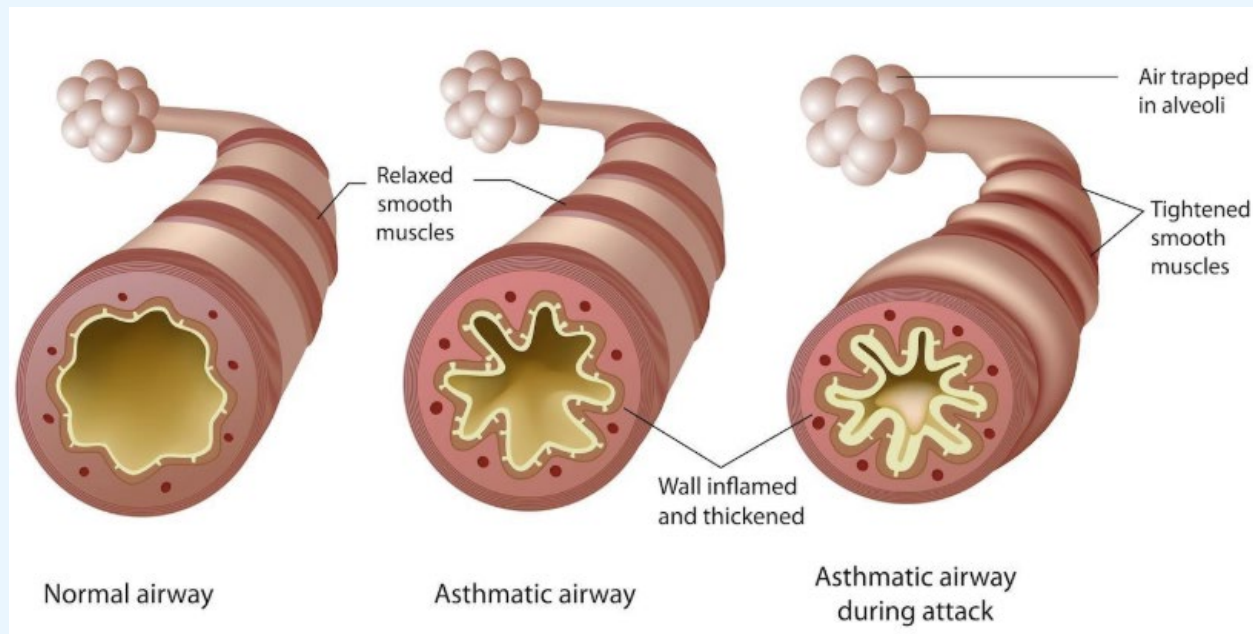
- Over 2.7 million Australians have asthma
- 11% total population, high by international standards
- Since 2001
 - Decline in children and young adults; stable in adults >35years
- More common in boys than girls; after adolescence more common in women
- In 2018, 389 people died from asthma
- 50% of people with asthma over 75yrs have not been diagnosed by a doctor
- Reports from around the world show that 25–35% of people with a diagnosis of asthma in primary care may not actually have asthma

What is Asthma?

- Asthma is a chronic lung disease, which can be controlled but not cured
- In clinical practice, asthma is defined by the presence of **both** the following:
 - excessive variation in lung function
 - variable respiratory symptoms

Small Airway Obstruction

- 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



Characteristics of Asthma

- Chronic inflammation in the lining of the small airways of the lungs
- Symptoms are usually associated with **airflow obstruction**
 - May be widespread but can be variable
 - Often reversible either spontaneously or with treatment
- The inflammation causes recurrent episodes of common symptoms:
 - Wheezing
 - Breathlessness
 - Cough
 - Chest Tightness

Triggers for Asthma

- Vary with each person
- Important to identify trigger(s)
- Once identified avoidance and management strategies can be discussed which may improve asthma control

Unavoidable Triggers

- Do not avoid
 - Exercise or laughter
- Manage
 - Respiratory tract infections
 - Certain medicines e.g. aspirin, anticholinesterases and cholinergic agents
 - Comorbid medical conditions e.g. allergic rhinitis, nasal polyps, obesity, upper airway dysfunction, gastric reflux
 - Physiological/psychological changes e.g. extreme emotions, hormonal changes, pregnancy



Avoidable Triggers

- Always avoid

- Cigarette smoke



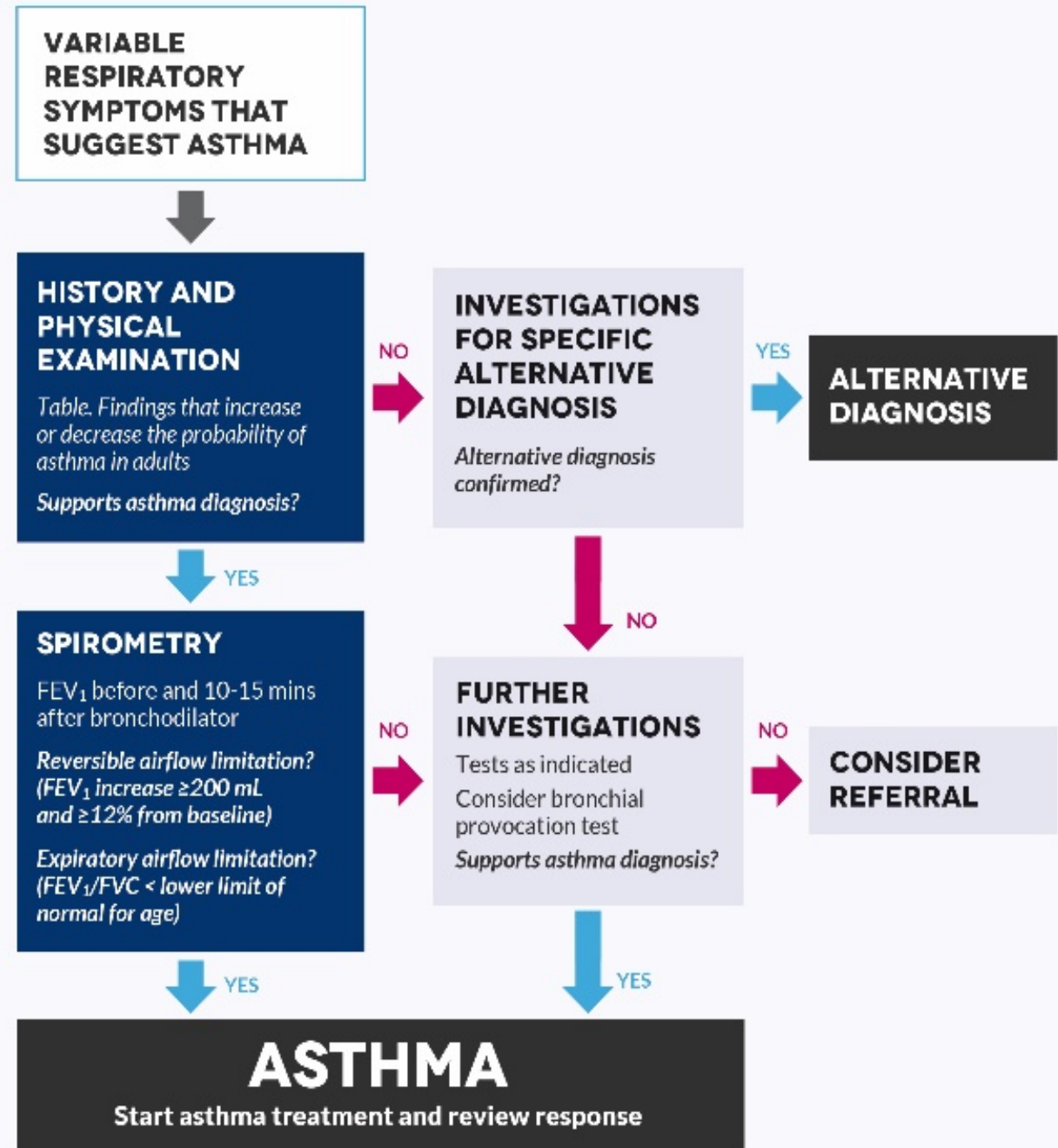
- Avoid or reduce exposure where possible

- Allergens e.g. animals, cockroaches, house dust mite, pollens, moulds
- Irritants e.g. cold/dry air, perfumes/sprays, smoke of any kind, environmental pollution, some thunderstorms in spring and early summer
- Certain medicines e.g. aspirins, NSAIDs, beta blockers, bee products (e.g. royal jelly), echinacea
- Dietary triggers e.g. food chemicals/additives, thermal effects (cold drinks/ice cream)



Diagnosis

- Based on:
 - History
 - Physical examination
 - Diagnostic testing (e.g. spirometry)
 - May include treatment trial (e.g. assess response to an inhaled bronchodilator)
 - Diary card may be helpful

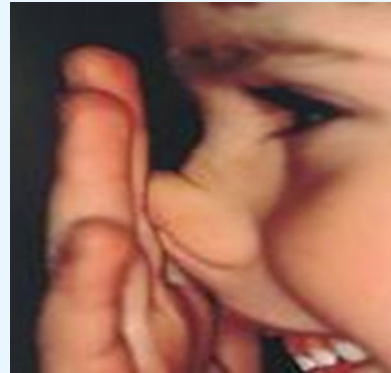


History

- Wheeze, chest tightness, shortness of breath and/or cough
- History of allergies e.g. allergic rhinitis, atopy, dermatitis/eczema
 - Allergic rhinitis often precedes asthma
 - Family history of asthma or allergies
 - First degree relative – parents, siblings or children
- Identified trigger for symptoms
- Ever tried relievers – any response?
- Smoking history – all forms (e-cigarettes, water pipes, bongs)
- Exposure to cigarette smoke, maternal smoking during pregnancy

Physical Examination

- Observe breathing
- Auscultation for wheeze – wheeze is suggestive, but not diagnostic
- Look at the shape of the chest
- Observe for signs of rhinitis



Diagnostic Testing

- Spirometry
 - To assess airway function
 - Pre and post bronchodilator testing to assess reversibility
 - Can be used in older children and adults
 - May be normal if asthma well controlled at time of testing
 - Peak flow is no substitute



Further Investigations

- Allergy testing
 - Skin prick testing
 - Blood test for allergen specific IgE
- Challenge/provocation testing
 - performed in lung function laboratories
- Other tests
 - Chest X-ray - only useful for differential diagnosis



Asthma is more likely if:

- Symptoms are:
 - Recurrent or seasonal
 - Worse at night or in the early morning
 - Triggered by exercise, irritants, allergies or viral infections
 - Rapidly relieved by an inhaled bronchodilator (SABA)
- Symptoms began in childhood
- FEV₁ or PEF lower than predicted, without other explanation
- Eosinophilia or raised blood IgE level, without other explanation

Alternative Diagnosis

- Exclude non-asthma causes of wheeze or cough
 - Cough can be predominant, but very rare to be only asthma symptom
- Consider:
 - Recurrent non-specific cough especially in children
 - Structural airway problems in children e.g. tracheomalacia
 - Other respiratory conditions e.g. uncontrolled allergic rhinitis, bronchiectasis, COPD, hyperventilation/dysfunctional breathing, inhaled foreign body, vocal cord dysfunction
 - Cardiovascular disease e.g. chronic heart failure, pulmonary hypertension
 - Comorbid conditions e.g. obesity, GORD
 - Other causes of cough e.g. postnasal drip, enlarged thyroid, side-effects of medications
 - Exercise-induced respiratory symptoms – is it ‘normal huff and puff’?

Management Principles

- Asthma is a chronic disease
 - Needs ongoing care
 - Not just about treating asthma attack
 - Ongoing self-management education
 - Asthma Action Plans
- Need to consider
 - Lifestyle issues
 - Medical management
 - Comorbidities



Lifestyle Issues

- Smoking cessation – all forms!
- Eliminate passive exposure
- Identify triggers
 - Avoidance strategies
- Healthy well balanced diet
 - Ideal body weight
- Exercise regime/activity levels
- Stress management
 - Anxiety/stress may trigger and/or increase asthma symptoms



Medical Management

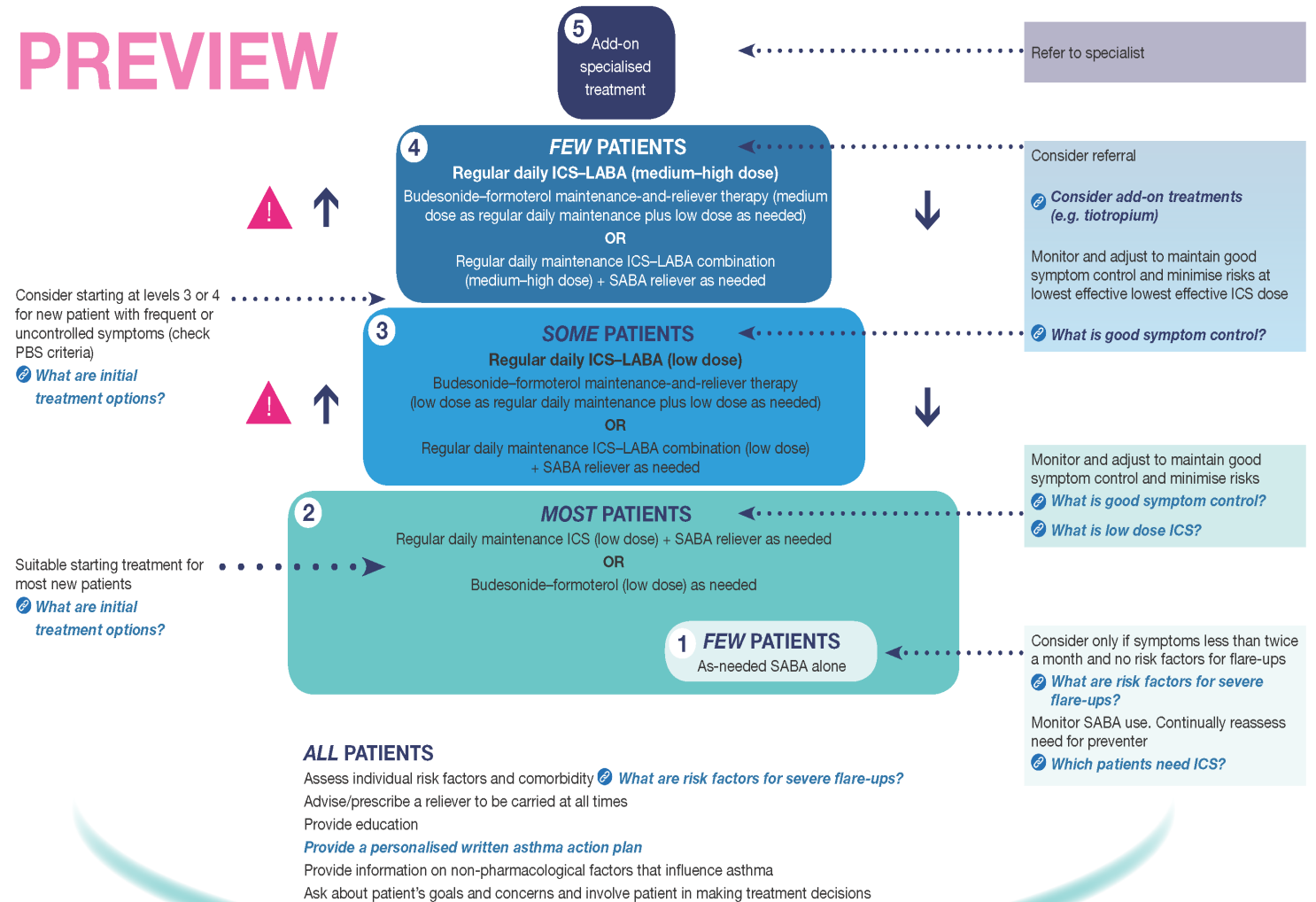
- Goal is to achieve and maintain:
 - Engaging the person in managing their asthma
 - Optimise asthma symptom control with the lowest dose of medication necessary
 - Minimise adverse effects of treatment
 - Minimise risk of flare-ups and loss of lung function
 - Minimise impact of asthma on quality of life
- Most appropriate regimen determined by:
 - Pattern of symptoms
 - Severity of symptoms
- Asthma control

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

PREVIEW



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 good asthma control?

- Asthma control involves:
 - Assessment of symptom pattern and severity over the previous 4 weeks
 - Assessment of risk factors for future adverse events
- Daytime symptoms ≤ 2 days per week
- Reliever use ≤ 2 days per week
 - Excluding before exercise
- No limitation of activities
- No symptoms during the night or on waking



Reasons for Poor Asthma Control

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

Consider a Medication Management Review if patient is on multiple medications

Exploring patient perceptions and guiding self-management

- Patients with asthma should be offered self-management education:
 - focused on individual needs
 - reinforced with a personalised written action plan

**Self-management + regular review
= improved asthma outcomes**

- Every asthma consultation is an opportunity to
 - Review, Reinforce, Extend knowledge, Extend skills
- Education is a process not a single visit

Perception VS Reality

It's about asking the right questions:

- **78%** of Australian asthma patients believe they are well controlled¹
- **13%** of Australian asthma patients are well controlled¹
- **58%** of patients use their reliever at least twice a day²

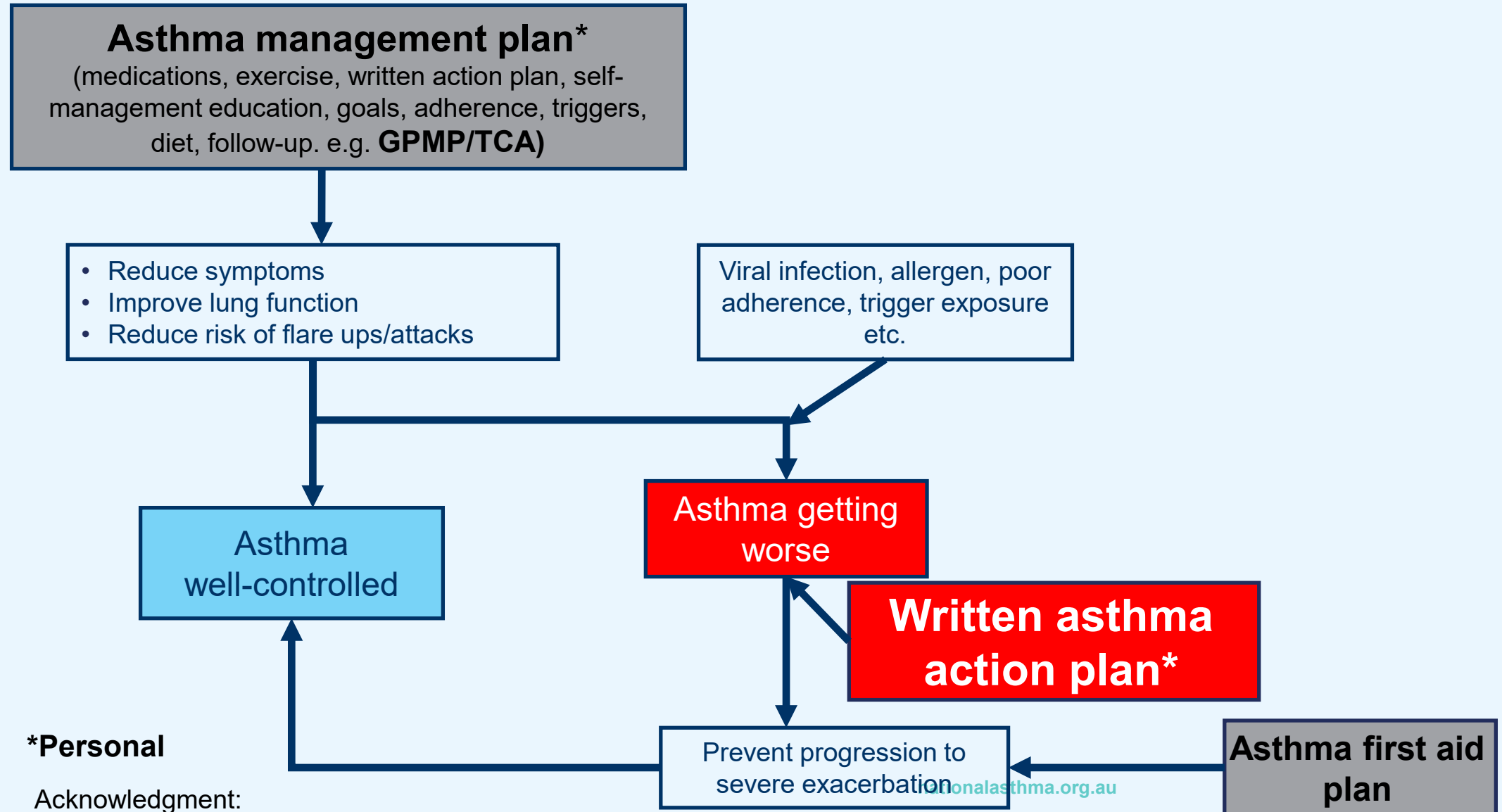
Don't just ask: How's your asthma?

Ask: How many times have you used your reliever puffer?
 How many times has your asthma woken at night?
 How many times have you been short of breath

Long-term management

Short-term treatment

Emergency aid by bystanders



Asthma action plans help the patient/carer

- To recognise worsening asthma
 - Increased symptoms, especially waking from sleep
 - Increased use of reliever medications
 - Falling or variable peak flow readings
- How to respond appropriately
 - Adjust medication
 - When to see your Doctor
 - When to call an ambulance

Written Asthma Action Plans (WAAP)

Must:

- Be personalised
- Be in language the patient understands
- Provide advice about modification of treatment according to symptoms
- Contain emergency steps
- Include useful contact numbers
- A useful resource for guidance is:
www.asthmahandbook.org.au

Written Asthma Action Plans



GP Computer software

Royal Children's Hospital

http://www.rch.org.au/clinicalguide/forms/Asthma_Action_Plan/

www.nationalasthma.org.au/health-professionals/asthma-action-plans/asthma-action-plan-library



Supported by the Australian Government
Department of Health

nationalasthma.org.au

Targeted Written Asthma Action Plans

Culturally appropriate for Indigenous Australians

Medically appropriate for SMART regimen

ASTHMA ACTION PLAN

Name: _____
Doctor: _____

Green: Feel Good
Orange: Short Wind
Red: Bad Short Wind

Feel Good

- no short wind
- no cough
- no whistle breathing



My medication:



Always use a spacer with your puffer if you have one



Short Wind

- tight chest
- whistle breathing (wheeze)
- short wind when walking or playing



My medication:



4 puffs when needed
Always carry your blue puffer with you and use it when you have short wind



Bad Short Wind

- short wind all the time
- fast breathing
- whistle breathing a lot
- cannot talk



Short Wind Danger Plan

- sit up
- have 4 puffs of blue puffer and wait a short time
- send someone to health clinic for help
- if you still have bad short wind, take 4 more puffs
- keep using the blue puffer until you feel better or the health worker comes

Dr Comments:

My Symbicort (budesonide/formoterol) Turbuhaler 200/6 Asthma Action Plan
Anti-inflammatory Reliever
With or without Maintenance



Name: _____
Date: _____
Plan discussed with: (name of health care professional) _____
My usual best peak flow (if used): _____ l/min



Usual Medical Contact: Name and telephone number _____

NORMAL MODE

■ MY SYMBICORT ASTHMA TREATMENT IS:
☐ Symbicort Turbuhaler 200/6 mcg

RELIEVER

I should take 1 Inhalation of my Symbicort whenever needed for relief of my asthma symptoms

I should always carry my Symbicort with me to use as a reliever when needed

■ MY REGULAR MAINTENANCE TREATMENT EVERY DAY IS : (enter number of inhalations or 0 if no regular daily treatment prescribed)

_____ Inhalation(s) in the morning (0, 1, 2)
_____ Inhalation(s) in the evening (0, 1, 2)

MY ASTHMA IS STABLE IF:

- I do not wake up at night or in the morning because of asthma
- My asthma has not interfered with my usual activities (e.g. housework, school, exercise)

OTHER INSTRUCTIONS
(e.g. what to do before exercise, when to see my doctor)

ASTHMA FLARE UP

IF OVER A PERIOD OF 2-3 DAYS:

- My asthma symptoms are getting worse or not improving
OR
- I am using more than 6 Symbicort reliever Inhalations a day
OR
- Peak flow below: _____ (delete if not used)

I SHOULD:

- ✓ Continue to use my Symbicort to relieve my symptoms and my regular daily Symbicort if prescribed (up to a maximum total of 12 Inhalations in a day)
- ☐ Contact my doctor
- ☐ Start a course of prednisolone

COURSE OF PREDNISOLONE TABLETS:

Take _____ mg prednisolone tablets each morning for _____ days; OR

IF I NEED MORE THAN 12 SYMBICORT INHALATIONS (TOTAL) IN ANY DAY,

- I must see my doctor or go to hospital the same day

ASTHMA EMERGENCY

■ SIGNS OF AN ASTHMA EMERGENCY

- My asthma symptoms are getting worse quickly
- I am finding it very hard to breathe or speak
- My Symbicort is not helping

IF I HAVE ANY OF THE ABOVE DANGER SIGNS, I SHOULD DIAL 000 FOR AN AMBULANCE AND SAY I AM HAVING A SEVERE ASTHMA ATTACK.

■ WHILE I AM WAITING FOR THE AMBULANCE:

- Sit upright and keep calm
- I should keep taking my Symbicort as needed
- If only Ventolin® is available, take 4 puffs as often as needed until help arrives
- Even if my symptoms appear to settle quickly I should seek medical advice right away
- ☐ Use my adrenaline autoinjector

OTHER INSTRUCTIONS

Community first aid protocol

1. Give 4 separate puffs of SABA via spacer
2. Take 4 breaths per puff
3. Wait 4 minutes
4. If symptoms persist, repeat steps 1-3

If still no improvement, call ambulance and continue steps 1-3 until help arrives

Kids' First Aid for Asthma

National Asthma Council Australia

- 1 Sit the child upright.**
Stay calm and reassure the child.
Don't leave the child alone.
- 2 Give 4 separate puffs of a reliever inhaler – blue/grey puffer (e.g. Ventolin, Asmol or Airmax).**
Use a spacer, if available.
Give one puff at a time with 4–6 breaths after each puff.
Use the child's own reliever inhaler if available.
If not, use first aid kit reliever inhaler or borrow one.
- 3 Wait 4 minutes.**
If the child still cannot breathe normally, give 4 more puffs.
- 4 If the child still cannot breathe normally, CALL AN AMBULANCE IMMEDIATELY (DIAL 000).**
Say that a child is having an asthma attack.
Keep giving reliever.
Give 4 separate puffs every 4 minutes until the ambulance arrives.

OR

Give 2 separate doses of a Bricanyl inhaler.
If a puffer is not available, you can use Bricanyl for children aged 6 years and over, even if the child does not normally use this.

Wait 4 minutes.
If the child still cannot breathe normally, give 1 more dose.

If child still cannot breathe normally, CALL AN AMBULANCE IMMEDIATELY (DIAL 000)
Say that a child is having an asthma attack.
Keep giving reliever.
Give one dose every 4 minutes until the ambulance arrives.

BRICANYL
For children 6 and over only

HOW TO USE INHALER

WITH SPACER
Use spacer if available*

- Assemble spacer (shown inside box)
- Remove puffer cap and shake well
- Insert puffer upright into spacer
- Place mouthpiece between child's teeth and seal lips around it
- Press once firmly on puffer to fire one puff into spacer
- Child takes 4–6 breaths in and out of spacer
- Repeat 1 puff at a time until 4 puffs taken – remember to shake the puffer before each puff
- Replace cap

WITHOUT SPACER
Kids over 7 if no spacer

- Remove cap and shake well
- Get child to breathe out away from puffer
- Place mouthpiece between child's teeth and seal lips around it
- Ask child to take slow deep breath into spacer
- Get child to hold breath for at least 4 seconds, then breathe out slowly away from puffer
- Repeat 1 puff at a time until 4 puffs taken – remember to shake the puffer before each puff
- Replace cap

BRICANYL
For children 6 and over only

- Unscrew cover and remove
- Hold inhaler upright and twist grip around then back
- Get child to breathe out away from inhaler
- Place mouthpiece between child's teeth and seal lips around it
- Ask child to take a slow deep breath in
- Ask child to breathe out slowly away from inhaler
- Repeat to take a second dose – remember to twist the grip both ways to release before each dose
- Replace cover

Not Sure if it's Asthma?
CALL AMBULANCE IMMEDIATELY (DIAL 000)
If the child stays conscious and their main problem seems to be breathing, follow the asthma first aid steps. Asthma reliever medicine is unlikely to harm them even if they do not have asthma.

Severe Allergic Reactions
CALL AMBULANCE IMMEDIATELY (DIAL 000)
Follow the child's Action Plan for Anaphylaxis if available. If you know that the child has severe allergies and seems to be having a severe allergic reaction, use their adrenaline autoinjector (e.g. EpiPen, Anapen) before giving asthma reliever medicine.

For more information on asthma visit: Asthma Foundations www.asthmaaustralia.org.au National Asthma Council Australia www.nationalasthma.org.au

Although all care has been taken, this chart is a general guide only which is not intended to be a substitute for individual medical advice. The National Asthma Council Australia expressly disclaims all responsibility (including for negligence) for any loss, damage or personal injury resulting from reliance on the information contained. © National Asthma Council Australia 2011.

First Aid for Asthma

- 1 Sit the person comfortably upright.**
Be calm and reassure the person.
Don't leave the person alone.
- 2 Give 4 puffs of a blue/grey reliever (e.g. Ventolin, Asmol or Airmax).**
Use a spacer, if available.
Give 1 puff at a time with 4 breaths after each puff.
Use the person's own inhaler if possible.
If not, use first aid kit inhaler or borrow one.
- 3 Wait 4 minutes.**
If the person still cannot breathe normally, give 4 more puffs.
- 4 If the person still cannot breathe normally, CALL AN AMBULANCE IMMEDIATELY (DIAL 000).**
Say that someone is having an asthma attack.
Keep giving reliever.
Give 4 puffs every 4 minutes until the ambulance arrives.
Children: 4 puffs each time is a safe dose.
Adults: For a severe attack you can give up to 6–8 puffs every 4 minutes.

OR

Give 2 separate doses of a Bricanyl or Symbicort inhaler.
If a puffer is not available, you can use Symbicort (people over 12) or Bricanyl, even if the person does not normally use these.

Wait 4 minutes.
If the person still cannot breathe normally, give 1 more dose.

If the person still cannot breathe normally, CALL AN AMBULANCE IMMEDIATELY (DIAL 000) Say that someone is having an asthma attack.
Keep giving reliever while waiting for the ambulance:
For Bricanyl, give 1 dose every 4 minutes.
For Symbicort, give 1 dose every 4 minutes (up to 3 more doses).

BRICANYL OR SYMBICORT

HOW TO USE INHALER

WITH SPACER

- Assemble spacer
- Remove puffer cap and shake well
- Insert puffer upright into spacer
- Place mouthpiece between tooth and seal lips around it
- Press once firmly on puffer to fire one puff into spacer
- Take 4 breaths in and out of spacer
- Slip spacer out of mouth
- Repeat 1 puff at a time until 4 puffs taken – remember to shake the puffer before each puff
- Replace cap

WITHOUT SPACER

- Remove cap and shake well
- Breathe out as far from puffer
- Place mouthpiece between teeth and seal lips around it
- Press once firmly on puffer while breathing in slowly and deeply
- Slip puffer out of mouth
- Hold breath for 4 seconds or as long as comfortable
- Breathe out slowly away from puffer
- Repeat 1 puff at a time until 4 puffs taken – remember to shake the puffer before each puff
- Replace cap

BRICANYL OR SYMBICORT

- Unscrew cover and remove
- Hold inhaler upright and twist grip around then back
- Breathe out away from inhaler
- Place mouthpiece between teeth and seal lips around it
- Breathe in forcefully and deeply
- Slip inhaler out of mouth
- Breathe out slowly away from inhaler
- Repeat to take a second dose – remember to twist the grip both ways to release before each dose
- Replace cover

Not Sure if it's Asthma?
CALL AMBULANCE IMMEDIATELY (DIAL 000)
If a person stays conscious and their main problem seems to be breathing, follow the asthma first aid steps. Asthma reliever medicine is unlikely to harm them even if they do not have asthma.

Severe Allergic Reactions
CALL AMBULANCE IMMEDIATELY (DIAL 000)
Follow the person's Action Plan for Anaphylaxis if available. If the person has known severe allergies and seems to be having a severe allergic reaction, use their adrenaline autoinjector (e.g. EpiPen, Anapen) before giving asthma reliever medicine.

For more information on asthma visit:
Asthma Foundations – www.asthmaaustralia.org.au
National Asthma Council Australia – www.nationalasthma.org.au

Although all care has been taken, this chart is a general guide only which is not intended to be a substitute for individual medical advice. The National Asthma Council Australia expressly disclaims all responsibility (including for negligence) for any loss, damage or personal injury resulting from reliance on the information contained. © National Asthma Council Australia 2011.

Asthma and Telehealth

Now is a good time for an asthma review via telehealth, it's a way to engage and keep in touch with your patients

What can you do?

- Review asthma control by using an asthma score check
- Check they have a current written asthma action plan
- Ensure adequate supply of medication, especially reliever
- If video conferencing can check device technique
- See <http://www.mbsonline.gov.au/> for the fact sheet

Asthma and COVID-19

Refer to Australian Asthma Handbook for reference

- Check everyone with asthma has a current written asthma action plan – telehealth if need be
- Avoid performing spirometry unless urgent
- 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

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)