National Asthma Council AUSTRALIA

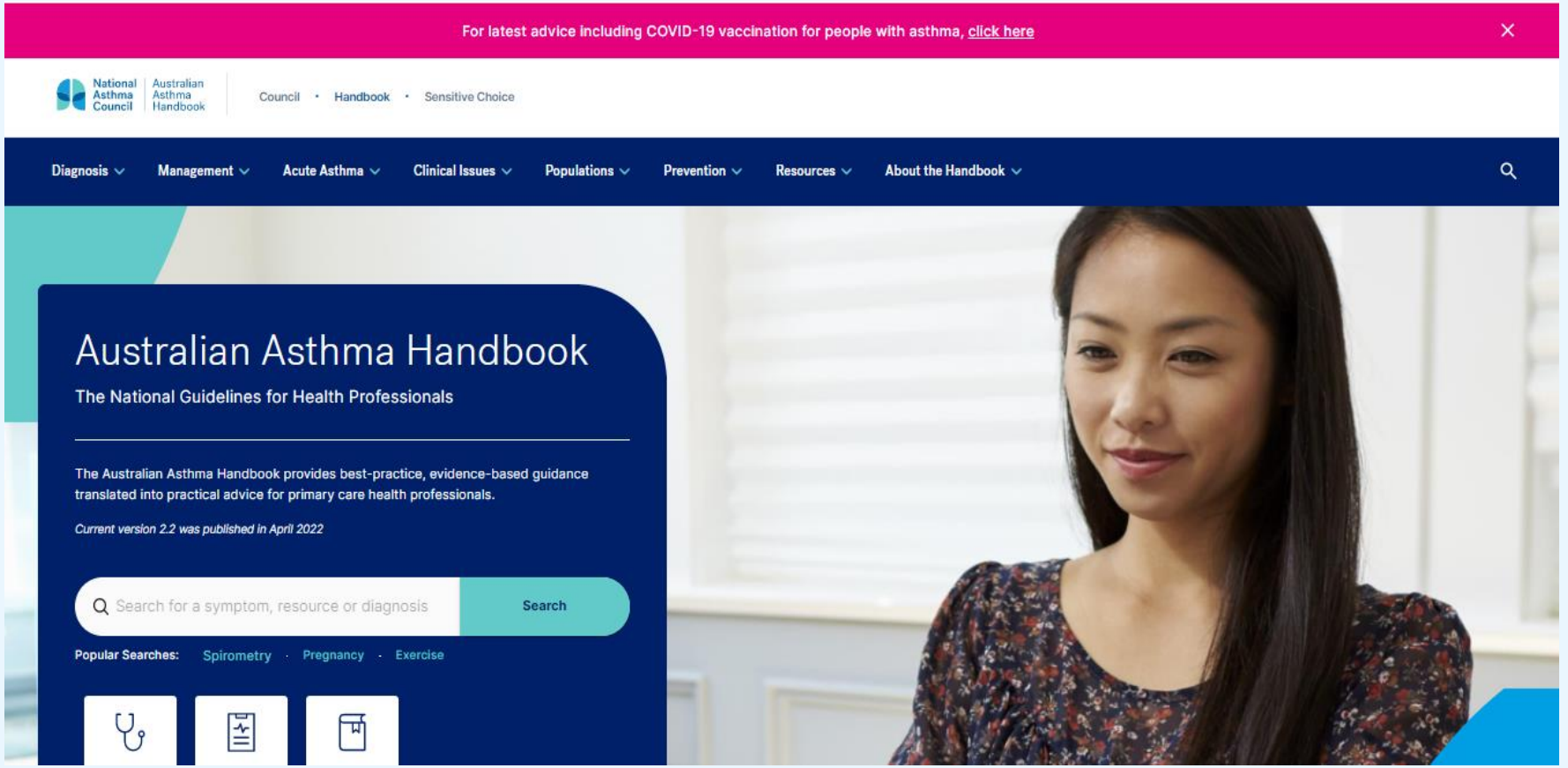
National Asthma Council Webinar Series 2023

Asthma in Spring
Allergies and thunderstorms

Learning Objectives

- Describe the association between allergic rhinitis and asthma
- Summarise the treatment guidelines for allergic rhinitis
- Describe those at greater risk of thunderstorm asthma and the guidelines of management
- Summarise the importance of written asthma action plans and asthma first aid in thunderstorm asthma season

Australian Asthma Handbook
www.asthmahandbook.org.au



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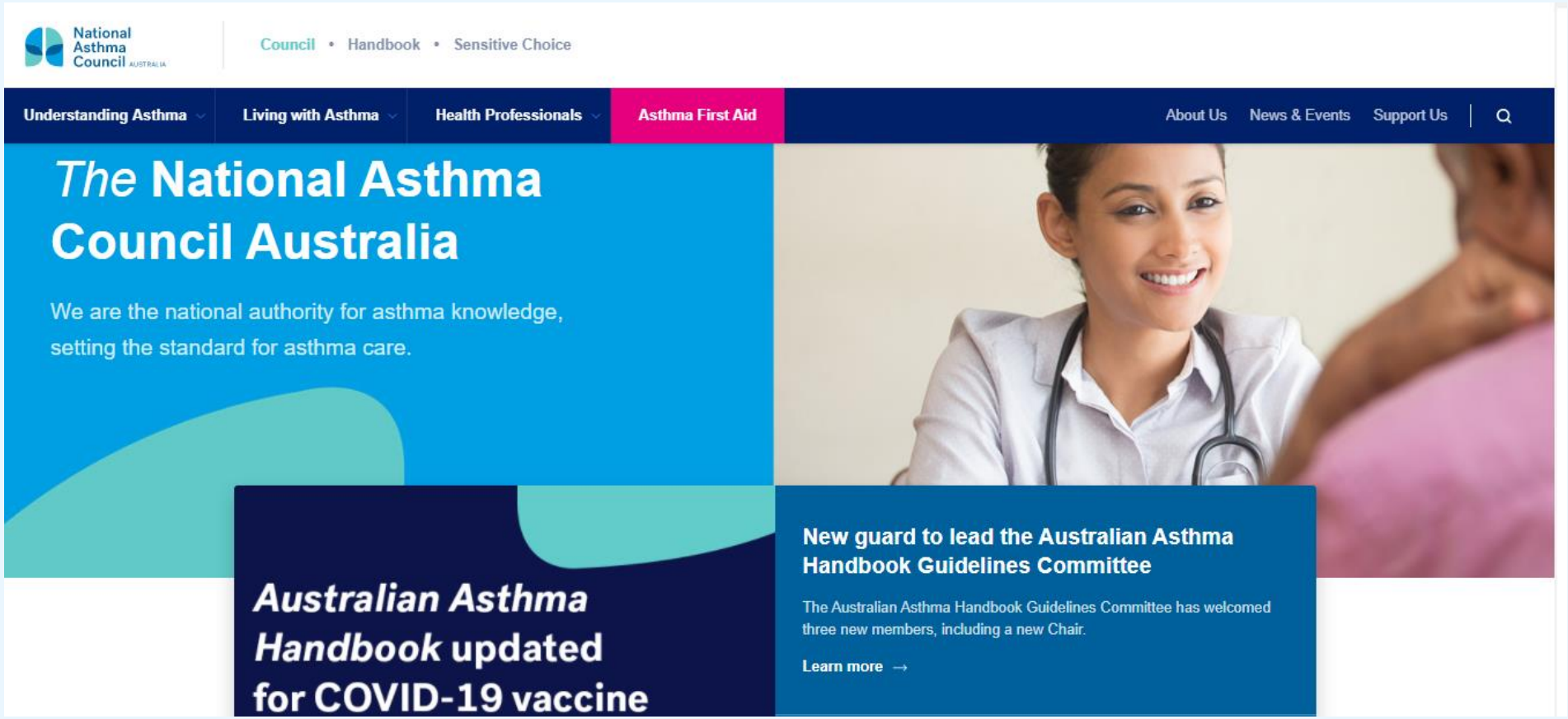


Allergic rhinitis- the facts

- Approximately 19% of Australians have allergic rhinitis (hay fever)
- Often underdiagnosed, undertreated and sub optimally self treated
- Most common in those between 15-54 years old
- Most people are sensitised to multiple allergens
- United Airway Disease- allergic rhinitis and asthma
  - Upper and lower airway inflammatory process
  - 80% of those with asthma have allergic rhinitis
  - 30% of those with allergic rhinitis have asthma
  - Assess pts with rhinitis for co-existing asthma and treat both conditions

Assessment of allergic rhinitis

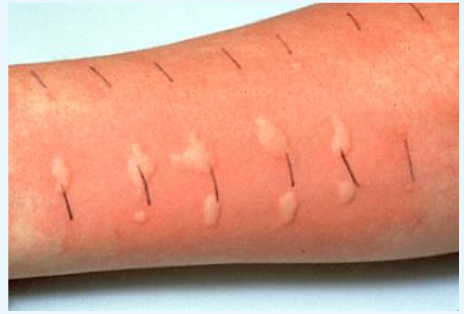
- Assess common symptoms- itchy, watery eyes, rhinorrhea, sneezing, constant throat clearing, cough, frequent sore throats, snoring, mouth breathing
- Frequency of symptoms- seasonal, perennial
- Impact of symptoms on day to day function
- Identifiable triggers- grasses, animal dander
- Physical assessment- inspect the upper airway for swollen turbinates, transverse nasal crease, reduced nasal airflow, mouth breathing, dark circles under eyes indicating sinus congestion, sinus pain
- Coexistent conditions- asthma, eczema
- www.asthmahandbook.org.au/clinical-issues/allergies/allergic-rhinitis/adults-adolescents

Diagnostic investigations

- Serum specific IgE blood test
- Skin prick testing
- Tests that are not useful:

 - Food allergy testing – generally food allergies do not cause rhinitis

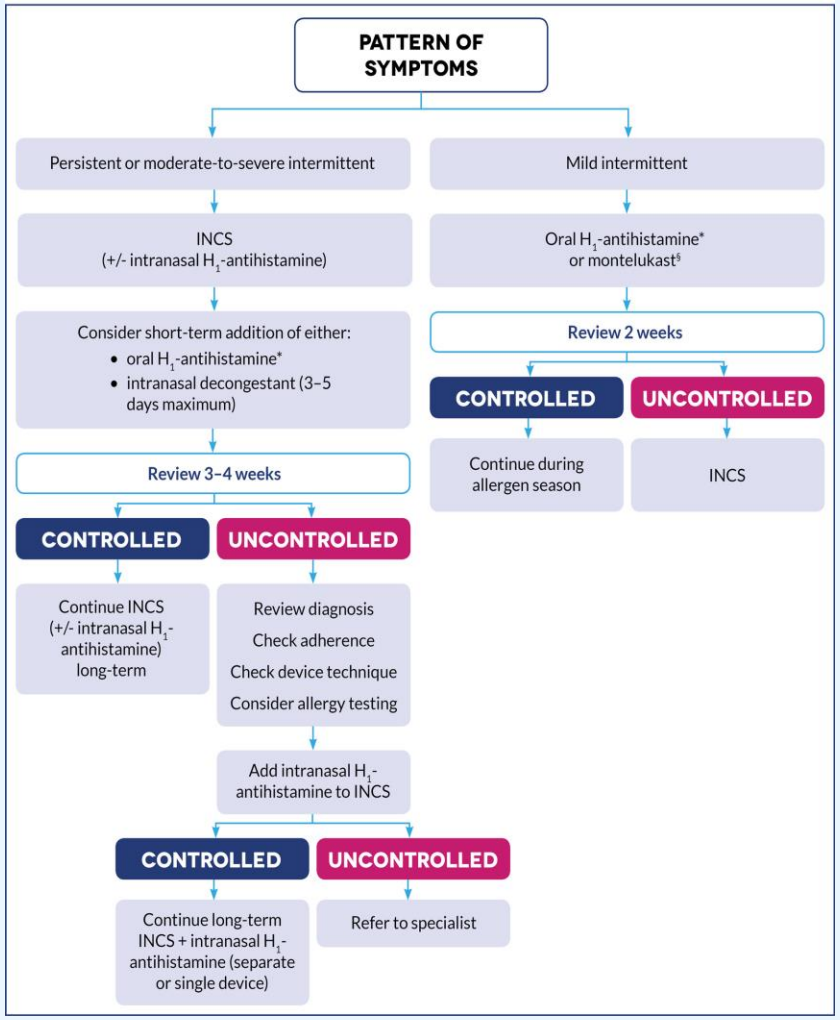
- FBE and total IgE is of little clinical use
- Unproven testing methods- kinesiology, reflexology, hair analysis

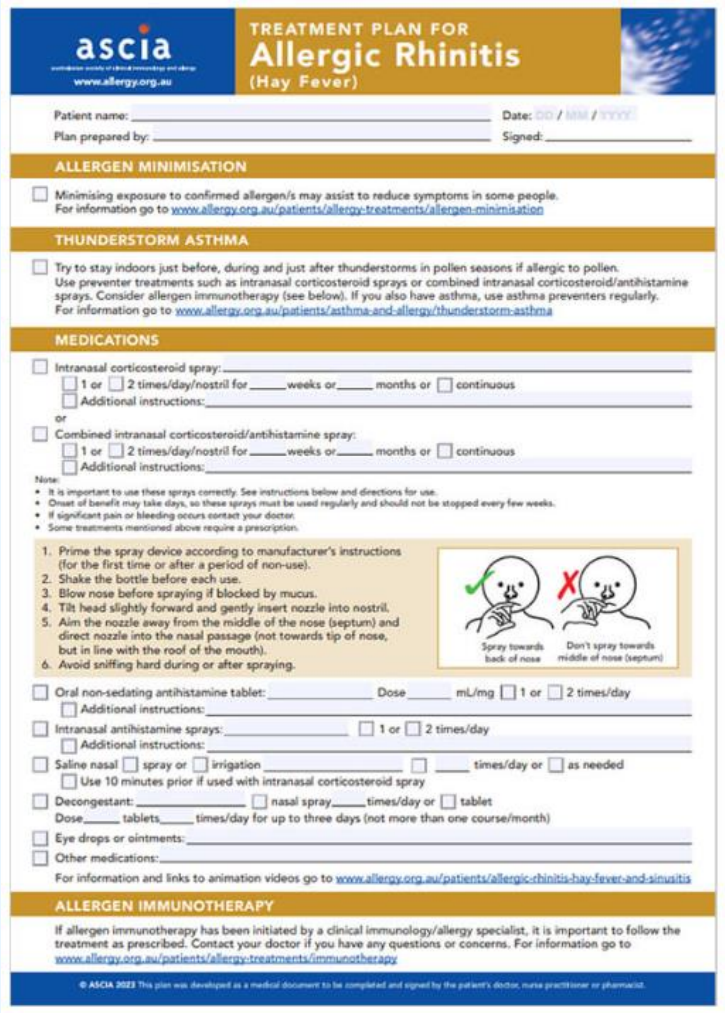


Allergic rhinitis treatment

- Intranasal corticosteroids (INCS) spray
- Antihistamine nasal spray
- Combination nasal spray
- Rapid acting oral antihistamines (non drowsy)
- Saline sinus rinse
- Allergen avoidance
  - Important to confirm allergen
- Specific allergen immunotherapy (desensitisation)
  - Sublingual or subcutaneous immunotherapy
  - Can modify allergic immune responses
- Oral corticosteroids should be avoided
- Allergy Treatment Plan available www.allergy.org.au

AR Treatment Plans





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ALLERGIC RHINITIS TREATMENTS

CORTICOSTEROID

Flixonase
fluticasone propionate
50mcg

Avamys*
fluticasone furoate
27.5mcg

Omnaris*
ciclesonide
50mcg

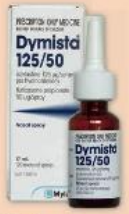
Beconase
beclometasone
50mcg

Rhinocort Hayfever • Rhinocort*
budesonide†
32mcg • 64mcg

Nasonex Allergy • Nasonex*
mometasone†
50mcg

ANTIHISTAMINE/CORTICOSTEROID

Ryaltris*
olopatadine/mometasone
600mcg/25mcg



Dymista*
azelastine/fluticasone propionate†
125mcg/50mcg

ANTICHOLINERGIC

Atrovent Nasal • Atrovent Nasal Forte
ipratropium
22mcg • 44mcg

ANTIHISTAMINE

Azep
azelastine†
125mcg

Livostin
levocabastine†
0.5mg/mL

SALINE

FESS Saline Spray (nasal spray)
sodium chloride†
9mg/mL

FESS Nasal and Sinus Wash
sodium chloride†
9mg/mL

FESS Nasal & Sinus Mist
sodium chloride†
30mg/mL

MORE RESOURCES

HOW-TO VIDEOS

National Asthma Council Australia
'How-to' videos for nasal spray technique
Clinical recommendations for asthma & allergies
Patient advice, factsheets and brochures

nationalasthma.org.au

SCAN ME

This chart shows the main intranasal treatment options available in Australia. Check TGA-approved product information for indications and precautions. Developed independently by the National Asthma Council Australia with support from Seqirus Australia and Care Pharmaceuticals.

DECONGESTANT

Decongestant
xylometazoline
multiple brands available

Decongestant
oxymetazoline

Spray Tish
tramazoline
82mcg
short-term use only

Otrivin Plus
xylometazoline/ipratropium
0.5mg/mL/0.6mg/mL

*Available by prescription only. PBS subsidisation is not available on most nasal sprays. RPBS subsidisation is available for selected nasal sprays - check current criteria. †generic brands also available

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ALLERGIC RHINITIS

Treatment planner for patients with asthma

INFORMATION PAPER FOR HEALTH PROFESSIONALS

INTRANASAL SPRAY TECHNIQUE

Intranasal spray technique for people with allergic rhinitis

Watch demonstrations nationalasthma.org.au

KEY MESSAGES FOR PATIENTS

If you don't know how to use your nasal spray correctly you may not get the best results and could cause nosebleeds.

Corticosteroid nasal sprays are the most effective treatment for allergic rhinitis and are recommended for most people with symptoms that are persistent or moderate to severe. These medicines:

- **are effective medicines for managing allergic rhinitis.** People with allergic rhinitis often put up with symptoms and don't realise they can feel better if symptoms are properly controlled.
- **have a good safety profile and can be used every day long-term.** Patients need to understand that these medicines are not anabolic steroids, and also that each dose is very small – much less than for asthma preventers.
- **are intended for everyday use.** These medications work best when taken regularly and long-term, just like preventers for asthma.

Antihistamine nasal sprays are also commonly used to treat allergic rhinitis, either in combination with a corticosteroid spray (for people with severe symptoms), or on their own (for people with mild intermittent symptoms).

This information paper provides an overview of current evidence for optimal technique when administering intranasal sprays used in the long-term management of allergic rhinitis.

Overview of allergic rhinitis medicines

Common intranasal sprays are listed in Table 1.

Intranasal corticosteroids:

- **are first-choice treatment for patients with allergic rhinitis.**[1,2] They are more effective than oral antihistamines or intranasal antihistamines in controlling rhinitis symptoms.[1-4]
- **have a good long-term safety profile.** They do not have a clinically significant effect on the hypothalamic–pituitary–adrenal axis or cause mucosal atrophy when taken continuously at recommended doses.[1-4] Nosebleed is usually due to poor spray technique or crusting.

Intranasal H$_1$-antihistamines are an add-on treatment option if symptoms are not adequately controlled by an intranasal corticosteroid alone, or can be used as monotherapy for people with mild intermittent allergic rhinitis.

Correct technique for using intranasal sprays for allergic rhinitis

The aim is to deliver the dose throughout the lining of the nasal cavity, including the lateral wall. The medicine must reach the ciliated nasal mucosa before it can be transported further into the nose, instead of dripping out of the anterior part of the nose. In practice, less than 50% of spray reaches the ciliated interior, and most of the dose is lost to the anterior part of the nose and to the nasopharynx.[5,6]

Current evidence suggests that the best spray technique (Table 2) involves:[5,9-11]

- tilting the head forward about 45 degrees. Tilting the head back allows the medicine to flow through the nose to the throat, and therefore to be swallowed and absorbed into the gastrointestinal tract.
- directing the nozzle slightly away from the midline to avoid contact with the septum.

There are several reasons for aiming the spray laterally:[5,9]

- It may result in a higher concentration on the areas likely to be most inflamed (the middle and inferior turbinates or the middle meatus).
- It may promote wider distribution within the nose, because the concentration of ciliated cells is higher in the lateral nasal wall.
- Avoiding the septum might reduce the risk of nosebleed.

Using the opposite hand to spray each nostril is recommended given that nosebleed appears to be more common on the same side as the hand used to spray.[9]

Breathing in gently while spraying may improve the distribution of the spray.[7] Vigorously inhaling while spraying does not improve distribution[7] and could increase oropharyngeal deposition.

Where saline irrigation is used as an adjunctive treatment, it should be used before spraying.[11]

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leading the attack against asthma

Specialist referral for rhinitis

- If no response within 3-4 weeks of treatment trials
- Symptoms persistent, severe or unresponsive
- Continuing poor asthma control despite regular preventer medication
- Other allergic diseases present (e.g. severe eczema)
- Food or occupational allergy suspected
- Complications such as resistant obstruction, sinus disease, anosmia, ear problems and persistent purulent discharge
- If immunotherapy is contemplated
  - Sub cutaneous or sublingual available

Any Questions?

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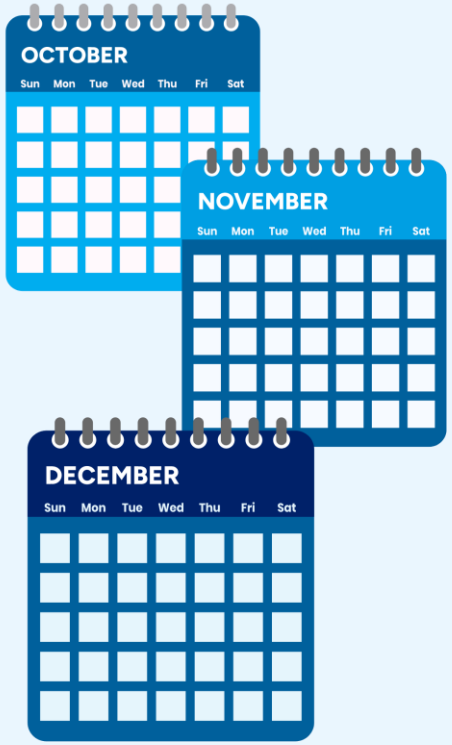
Grass Pollen and Thunderstorms



History in Melbourne

Year, month, day	Time of event	Hospital presentations
1984 Nov 11	Early morning	85 to ED, 16 admitted
1987 Nov 8	Afternoon/evening	154 to ED, 26 admitted, 1 ICU, 1 death
1989 Nov 29	Evening	277 to ED,47 admitted, 3 ICU
2003 Nov 19/20	Midday	70 to ED
2010 Nov 25	Evening	36 to ED
2011 Nov 8	0330 – 0630hrs	30 to ED
2016 Nov21/22	onset 1800hrs	> 3500 to ED, 35 ICU admission, 10 deaths

Other reported Australian Episodes:

- Tamworth 1990; Wagga Wagga 1997; Newcastle 1998; Canberra 2014

Several incidents have also be recorded internationally

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Acknowledgment: Prof Francis Thien; MLSI “Asthma State of the Art” RACV July 2018

Grass Pollen and Thunderstorms

November 2016 epidemic thunderstorm asthma event - general practices in the Melbourne metropolitan area experienced a considerable impact.

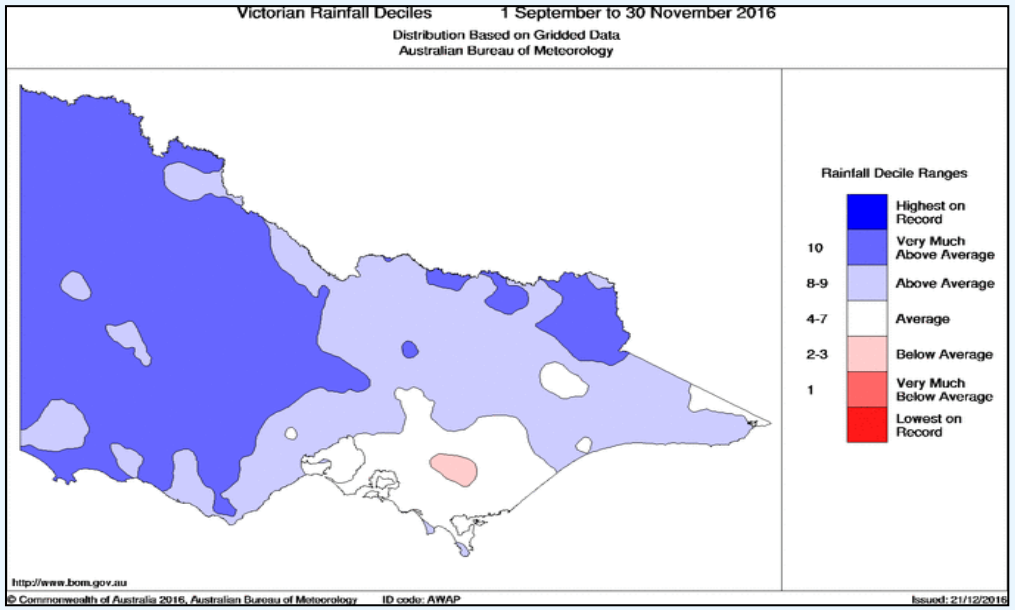
Over the 3 days 21st – 23d November, there were an estimated **10,000** **ADDITIONAL** asthma cases visiting a general practitioner

In the **30 hours** following this event ….

- **3400** extra emergency department presentations to public
- **500** extra admissions for asthma to public hospitals
- **30** ICU presentations
- **10** deaths

Springtime conditions

- High concentrations of allergenic material:
  - mainly rye grass pollen
  - Could also be fungi and/or dust



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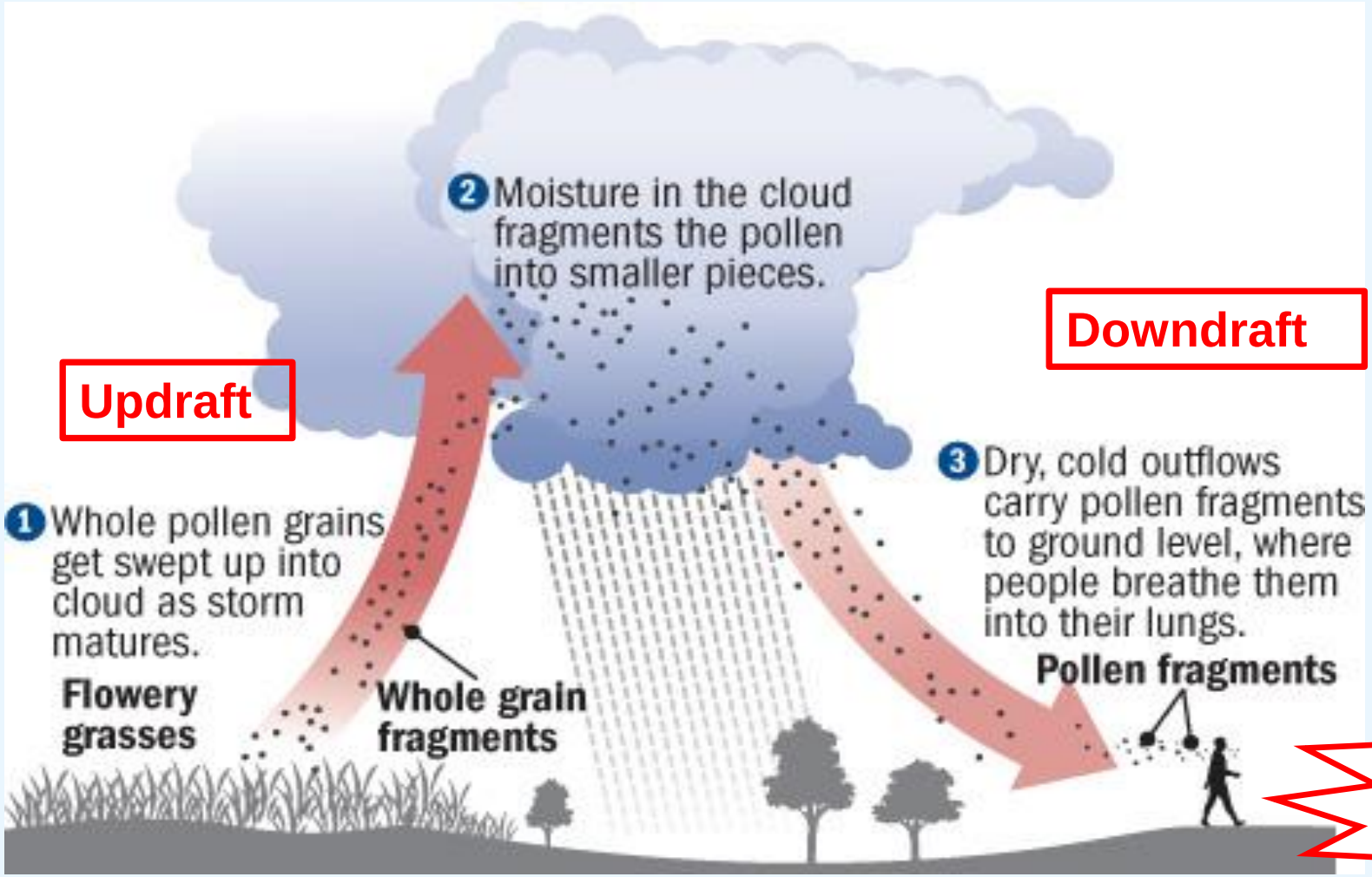
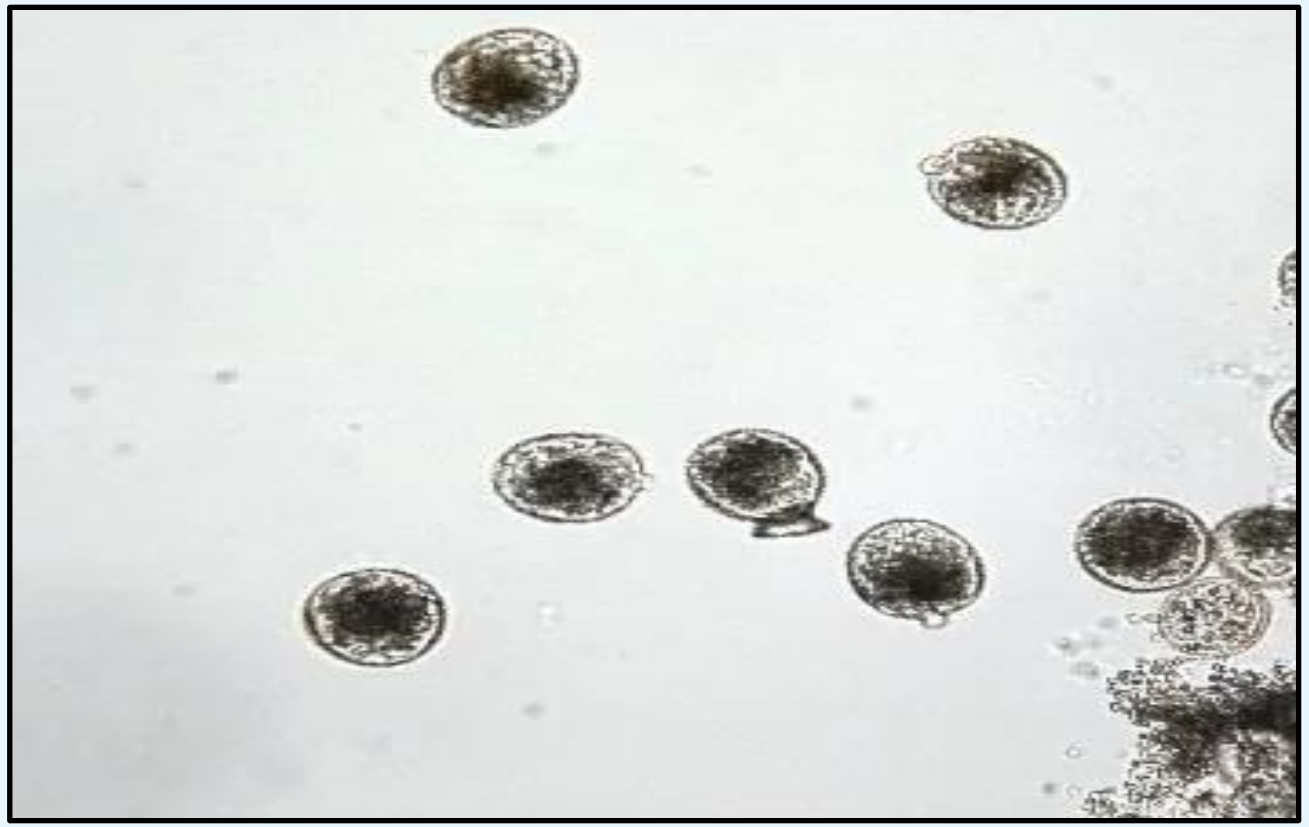
Type of thunderstorm

Visual representation of one hypothesis for the mechanism of thunderstorm asthma



Rupture of rye grass pollen



https://www.deakin.edu.au/students/faculties/sebe/les-students/airwatch

With permission from Associate Professor Cenk Suphioglu, Deakin University Geelong

Those at increased risk

- Sensitisation to ryegrass pollen
- Allergic rhinitis (with or without known asthma)
- Asthma (especially if poorly controlled or not taking preventer)
- Those that have ever had asthma
- Exposed to open air before and during a thunderstorm in pollen season
- Living in an area prone to high pollen counts, historically South Eastern Australia

General advice for those at risk

- Avoid outdoor exposure when pollen count high and thunderstorm is predicted
  - AusPollen app in your State/Territory
  - AirRater app - www.airrater.org.au
  - Australian Pollen Allergen Partnership – www.pollenforecast.com.au
  - Vic Emergency website - www.emergency.vic.gov.au
  - NSW state emergency service app - www.ses.nsw.gov.au
- In house or car- close windows, turn off air con or use on recirculated air on high pollen days or thunderstorm event
- If any signs of asthma follow a personal asthma action plan or if no personalised action plan then follow the asthma first aid steps
- If asthma symptoms are rapidly worsening, call 000 and state having an asthma attack

Medical management
Asthma & Allergic Rhinitis

- Be proactive in Spring- arrange a review appointment
  - Discuss increased asthma risk, assess for allergic rhinitis

- Manage as per current asthma guidelines
  - Preventer therapy- inhaled corticosteroid for most people
  - Check device technique and adherence issues
  - Always carry reliever therapy- SABA or anti inflammatory reliever

- Encourage proactive treatment for allergic rhinitis
  - Intranasal corticosteroids 2 weeks prior to and throughout pollen season

- Ensure asthma/rhinitis action plan is up to date and understood

Medical management
Allergic Rhinitis - no Asthma

- Manage allergic rhinitis as per current guidelines

- Identify those allergic to grass pollens
  - Treat with intranasal corticosteroids (INCS) beginning 2 weeks before and throughout pollen season

  - If live in or travelling to high pollen areas, educate on the risks of thunderstorm asthma

- Explanation of how to recognise asthma symptoms and what to do
  - Know how to get a reliever and how to use it, ensure correct device use
  - Provide Asthma First Aid information

Medical Management
no seasonal allergic rhinitis, no asthma

- Reassure people their risk is low
- Raise awareness of Asthma First Aid for all

Written Asthma Action Plans (WAAP's)

WAAP's clearly explain the steps to take to manage a person's asthma day-to-day and what to do during an exacerbation or asthma emergency.

An individualised asthma action plan should be developed, so that a child or adult with asthma, or their parent/carer, can recognise deterioration of symptoms and respond appropriately.

It is expected that ALL children & adults with asthma have a current asthma action plan

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WAAP's should include ALL of the following:

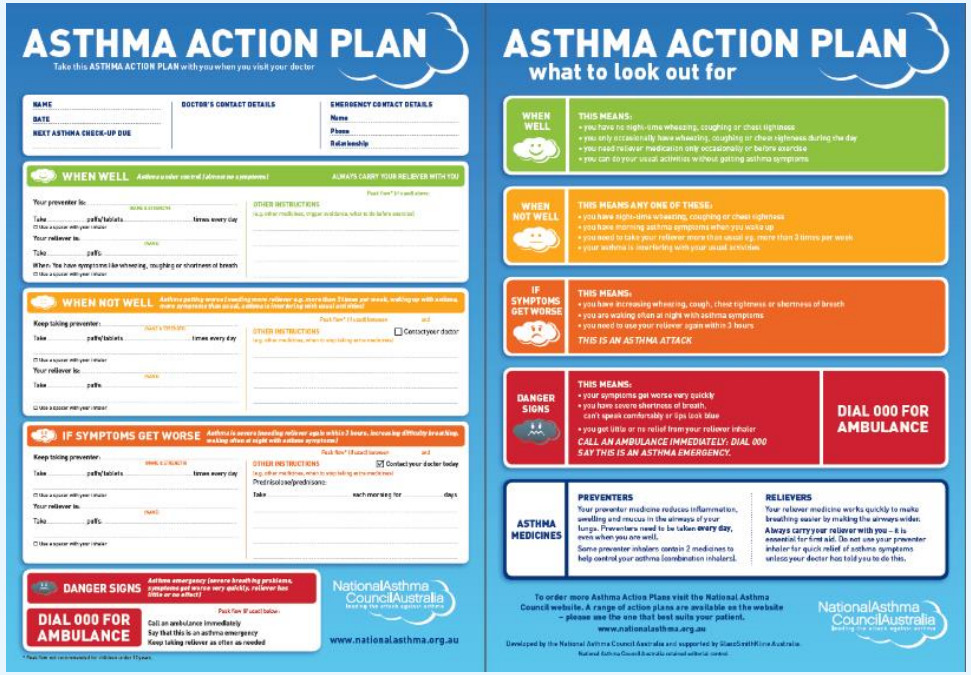
- Usual asthma medications including treatment for related conditions
- Clear instructions on when to take extra doses or medication
- When to contact a doctor or go to the ED
- Name of the GP or other health professional preparing the plan
- The date the plan was issued
- Advice about epidemic thunderstorm asthma, where to access pollen counts and forecasts

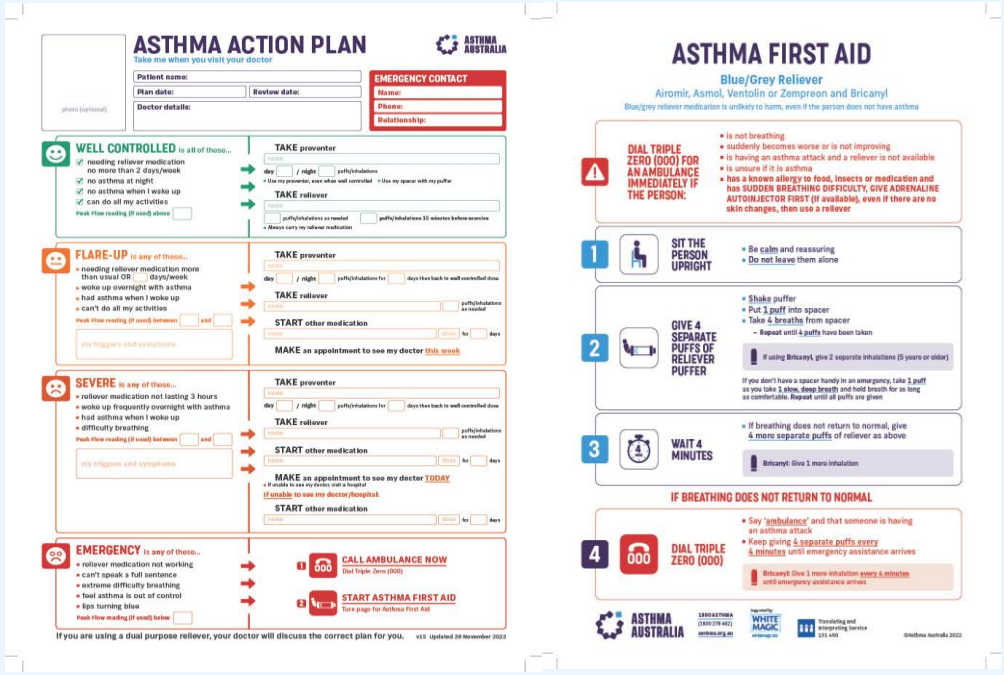
Improved health outcomes:

- Miss school or work less often
- Wake less at night and have improved symptom scores
- Significantly reduce ED and hospital presentations

Review of Written Asthma Action Plans:

Every 6 months for children
Every 12 months for adults
Whenever asthma control status changes significantly
Medications are changed or ceased





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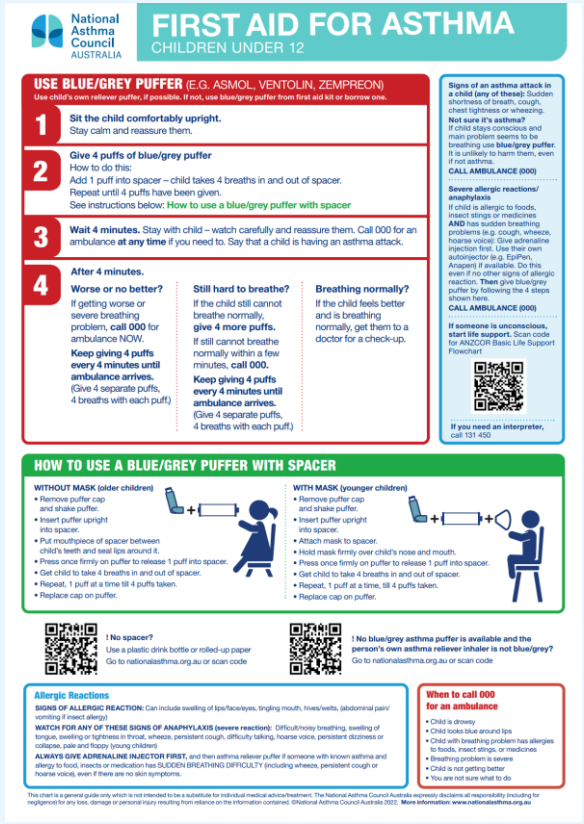
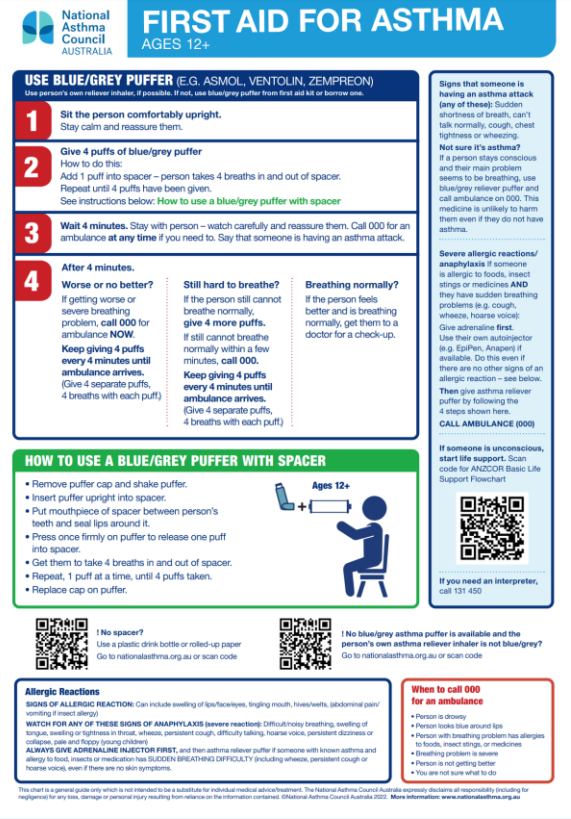
Community first aid protocol

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





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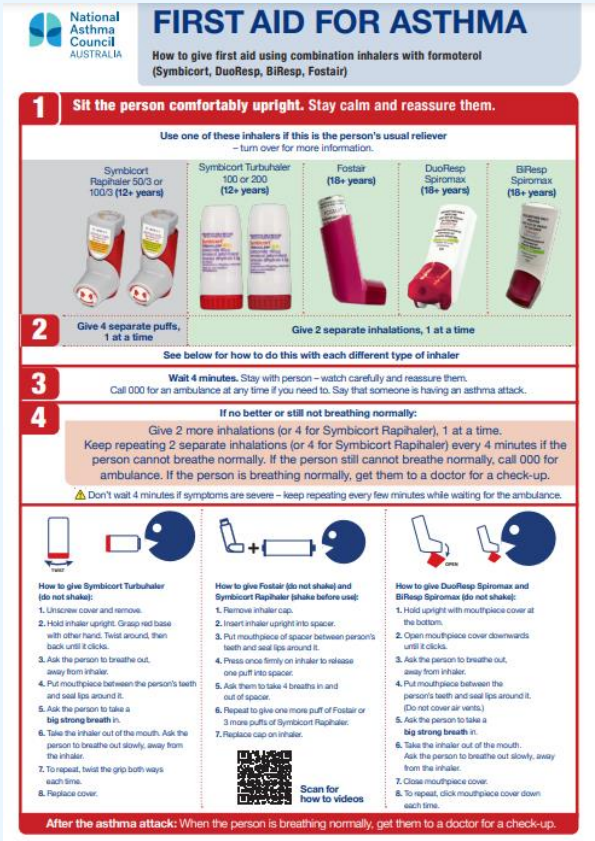
Asthma first aid using combination inhalers

Adults and Adolescents aged 12 years and over



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FIRST AID FOR ASTHMA

How to give first aid using combination inhalers with formoterol (Symbicort, DuoResp, BiResp, Fostair)

1 **Sit the person comfortably upright.** Stay calm and reassure them.

Use one of these inhalers if this is the person's usual reliever – turn over for more information.

Symbicort Rapihaler 50/3 or 100/3 (12+ years) | Symbicort Turbuhaler 100 or 200 (12+ years) | Fostair (18+ years) | DuoResp Spiromax (18+ years) | BiResp Spiromax (18+ years)

2 Give 4 separate puffs, 1 at a time | Give 2 separate inhalations, 1 at a time

See below for how to do this with each different type of inhaler

3 **Wait 4 minutes.** Stay with person – watch carefully and reassure them. Call 000 for an ambulance at any time if you need to. Say that someone is having an asthma attack.

4 **If no better or still not breathing normally:**

Give 2 more inhalations (or 4 for Symbicort Rapihaler), 1 at a time. Keep repeating 2 separate inhalations (or 4 for Symbicort Rapihaler) every 4 minutes if the person cannot breathe normally. If the person still cannot breathe normally, call 000 for ambulance. If the person is breathing normally, get them to a doctor for a check-up.

⚠ Don't wait 4 minutes if symptoms are severe – keep repeating every few minutes while waiting for the ambulance.

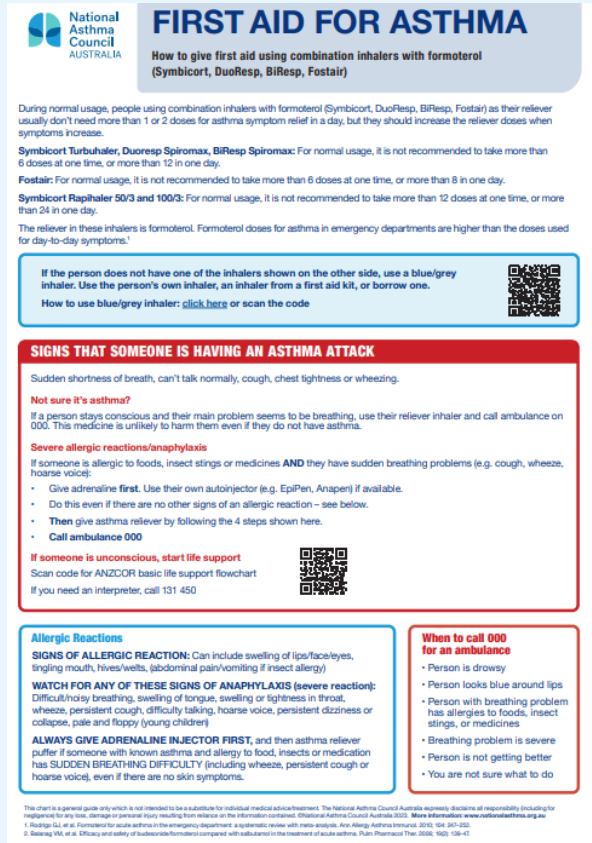
How to give Symbicort Turbuhaler (do not shake):
1. Unscrew cover and remove.
2. Hold inhaler upright. Grasp red base with other hand. Twist around, then back until it clicks.
3. Ask the person to breathe out, away from inhaler.
4. Put mouthpiece between the person's teeth and seal lips around it.
5. Ask the person to take a **big strong breath** in.
6. Take the inhaler out of the mouth. Ask the person to breathe out slowly, away from the inhaler.
7. To repeat, twist the grip both ways each time.
8. Replace cover.

How to give Fostair (do not shake) and Symbicort Rapihaler (shake before use):
1. Remove inhaler cap.
2. Insert inhaler upright into spacer.
3. Put mouthpiece of spacer between person's teeth and seal lips around it.
4. Press once firmly on inhaler to release one puff into spacer.
5. Ask them to take 4 breaths in and out of spacer.
6. Repeat to give one more puff of Fostair or 3 more puffs of Symbicort Rapihaler.
7. Replace cap on inhaler.

Scan for how to videos

How to give DuoResp Spiromax and BiResp Spiromax (do not shake):
1. Hold upright with mouthpiece cover at the bottom.
2. Open mouthpiece cover downwards until it clicks.
3. Ask the person to breathe out, away from inhaler.
4. Put mouthpiece between the person's teeth and seal lips around it. (Do not cover air vents.)
5. Ask the person to take a **big strong breath** in.
6. Take the inhaler out of the mouth. Ask the person to breathe out slowly, away from the inhaler.
7. Close mouthpiece cover.
8. To repeat, click mouthpiece cover down each time.

After the asthma attack: When the person is breathing normally, get them to a doctor for a check-up.



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FIRST AID FOR ASTHMA

How to give first aid using combination inhalers with formoterol (Symbicort, DuoResp, BiResp, Fostair)

During normal usage, people using combination inhalers with formoterol (Symbicort, DuoResp, BiResp, Fostair) as their reliever usually don't need more than 1 or 2 doses for asthma symptom relief in a day, but they should increase the reliever doses when symptoms increase.

Symbicort Turbuhaler, Duoresp Spiromax, BiResp Spiromax: For normal usage, it is not recommended to take more than 6 doses at one time, or more than 12 in one day.

Fostair: For normal usage, it is not recommended to take more than 6 doses at one time, or more than 8 in one day.

Symbicort Rapihaler 50/3 and 100/3: For normal usage, it is not recommended to take more than 12 doses at one time, or more than 24 in one day.

The reliever in these inhalers is formoterol. Formoterol doses for asthma in emergency departments are higher than the doses used for day-to-day symptoms.[1]

If the person does not have one of the inhalers shown on the other side, use a blue/grey inhaler. Use the person's own inhaler, an inhaler from a first aid kit, or borrow one.

How to use blue/grey inhaler: click here **or scan the code**

SIGNS THAT SOMEONE IS HAVING AN ASTHMA ATTACK

Sudden shortness of breath, can't talk normally, cough, chest tightness or wheezing.

Not sure it's asthma?

If a person stays conscious and their main problem seems to be breathing, use their reliever inhaler and call ambulance on 000. This medicine is unlikely to harm them even if they do not have asthma.

Severe allergic reactions/anaphylaxis

If someone is allergic to foods, insect stings or medicines **AND** they have sudden breathing problems (e.g. cough, wheeze, hoarse voice):

- Give adrenaline **first**. Use their own autoinjector (e.g. EpiPen, Anapen) if available.
- Do this even if there are no other signs of an allergic reaction – see below.
- **Then** give asthma reliever by following the 4 steps shown here.
- **Call ambulance 000**

If someone is unconscious, start life support

Scan code for ANZCOR basic life support flowchart

If you need an interpreter, call 131 450

Allergic Reactions

SIGNS OF ALLERGIC REACTION: Can include swelling of lips/face/eyes, tingling mouth, hives/welts, (abdominal pain/vomiting if insect allergy)

WATCH FOR ANY OF THESE SIGNS OF ANAPHYLAXIS (severe reaction): Difficult/noisy breathing, swelling of tongue, swelling or tightness in throat, wheeze, persistent cough, difficulty talking, hoarse voice, persistent dizziness or collapse, pale and floppy (young children)

ALWAYS GIVE ADRENALINE INJECTOR FIRST, and then asthma reliever puffer if someone with known asthma and allergy to food, insects or medication has SUDDEN BREATHING DIFFICULTY (including wheeze, persistent cough or hoarse voice), even if there are no skin symptoms.

When to call 000 for an ambulance

- Person is drowsy
- Person looks blue around lips
- Person with breathing problem has allergies to foods, insect stings, or medicines
- Breathing problem is severe
- Person is not getting better
- You are not sure what to do

This chart is a general guide only which is not intended to be a substitute for individual medical advice/treatment. 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 2023. **More information: www.nationalasthma.org.au**

1. Rodrigo GJ, et al. Formoterol for acute asthma in the emergency department: a systematic review with meta-analysis. Ann Allergy Asthma Immunol. 2010; 104: 347–352.
2. Balarajo VM, et al. Efficacy and safety of budesonide/formoterol compared with salbutamol in the treatment of acute asthma. Pulm Pharmacol Ther. 2008; 16(3): 139–47.

www.nationalasthma.org.au/asthma-first-aid

How to prepare for springtime thunderstorm asthma season?

At your clinic

- **Prepare early** - proactively review those with asthma, especially those with a history of springtime asthma/allergies/previous thunderstorm asthma
- Be aware of high pollen days & thunderstorm weather forecast
- Ensure bronchodilators are in date and have adequate supply
- Have a supply of spacers
- Have a clinic policy for patients presenting with an asthma flare up/attack
  - For all staff, including medical receptionists, practice nurses and general practitioners to know their responsibilities
  - Train all staff in asthma first aid and have chart on display
- Use telehealth during COVID for reviews

Asthma Australia Program: 1800 ASTHMA

At your pharmacy

- Ensure adequate supply of asthma medications
- Maintain adequate supply of spacers
- Have a pharmacy policy for patients presenting with an asthma flare up/attack – Flowchart available from NAC
  - For all staff, including pharmacy assistants, dispensing technicians and pharmacists to know their responsibilities and prioritise these patients
  - Train all staff in asthma first aid and have chart on display
  - Know which GP clinics are open and able to assist if appropriate
- For patients requesting hay fever medications, ask about asthma symptoms. Recommend GP review if asthma symptoms are identified.

Thoughts to consider….

- Does your clinic/workplace have an Emergency Asthma Plan Policy
  - Who has responsibility for different aspects of care?
  - Is there a consistent approach to emergency asthma management?
  - Does everyone in the practice know where a reliever is kept?

- Refer to Australian Asthma Handbook

  www.asthmahandbook.org.au

Resources

- **Australian Asthma Handbook** www.asthmahandbook.org.au
- **National Asthma Council** www.nationalasthma.org.au
  - Action Plans
  - Medication chart
  - Rhinitis medication chart
  - First Aid charts
  - Thunderstorm Asthma for Pharmacists
  - Managing Allergic Rhinitis in people with asthma
  - Intranasal spray technique
  - How To device videos
  - Spirometry infection control recommendations
- **Asthma Australia** www.asthma.org.au
  - 1800 ASTHMA (1800 278 462)
- **ASCIA** www.allergy.org.au

Resources

Victoria – Thunderstorm Asthma

- **Department of Health, Climate and Health Team**
  environmental.healthunit@health.vic.gov.au

- **The Department of Health** thunderstorm asthma public health campaign

- **Multicultural resources**
  A range of translated resources is available on the Thunderstorm asthma - multicultural resources page.

- Prepare and Get Ready – VicEmergency

- Thunderstorm asthma - Better Health Channel

Community Asthma Program

- Local community health centre, **cohealth** has a free Community Asthma Program (CAP):
- Free **asthma education** and support for under 18s with **asthma** or **preschool wheeze**
- **Asthma Educations** work one-on-one with children and families via home visits, telehealth or in clinic. **Interpreters** available if required.
- CAP will liaise with **childcare, kindergarten, schools** and with **GPs/specialists**

North & West Melbourne LGAs:

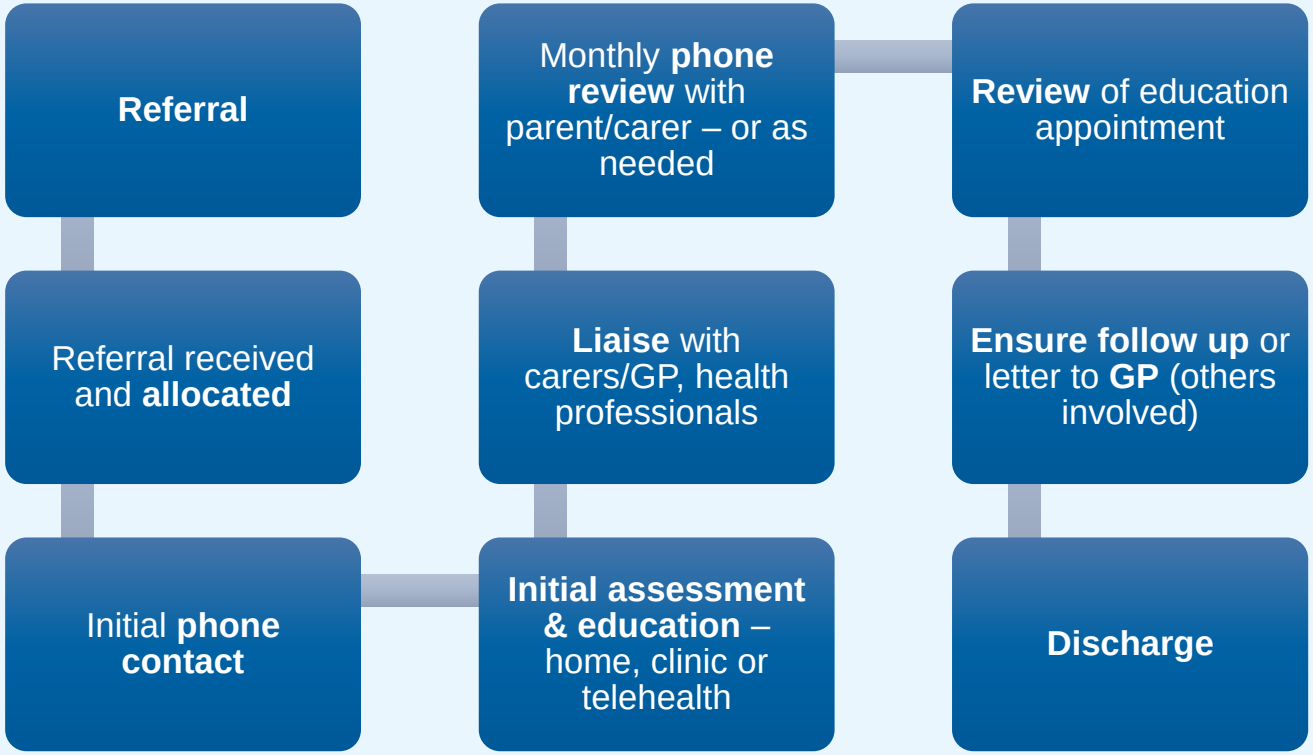
- Brimbank
- Banyule
- Maribyrnong
- Melbourne
- Melton
- Moonee Valley
- Wyndam
- Yarra

cohealth.org.au

cohealth
care for all

nationalasthma.org.au

CAP process



CAP webpage & referral form:

Contact CAP

www.cohealth.org.au/cap

Phone: 9448 6825

Email: CAP@cohealth.org.au

cohealth care for all

cohealth.org.au

nationalasthma.org.au

Thank you!!

Any Questions?

National Asthma Council AUSTRALIA

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The content of this workshop was developed and reviewed by the following expert group.

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Any Questions?

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Other webinar topics:

- Take a Breath- Asthma & COPD Medications & Devices
- Little Lungs- A Paediatric Asthma Update
- Asthma & COPD- They do Overlap
- Adult Asthma Management- Whats New

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