National Asthma Council Webinar Series

Asthma-COPD Overlap

Session 6

Asthma Best Practice For Health Professionals

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.

Learning Objectives

- Describe asthma-COPD overlap
- Describe how to access the COPD-X and asthma management guidelines
- Identify the steps to demonstrate the correct technique for inhaled respiratory devices
- Summarise the importance of written action plans in the management of asthma-COPD overlap

Australian Asthma Handbook
www.asthmahandbook.org.au

V2.1 is here! For an overview of the update, click here click here

National Asthma Council | Australian Asthma Handbook

Council · Handbook · Sensitive Choice

Diagnosis Management Acute Asthma Clinical Issues Populations Prevention About the Handbook

Australian Asthma Handbook

The National Guidelines for Health Professionals

Search for a symptom, resource or diagnosis Search

Popular Searches: Spirometry · Pregnancy · Exercise

Diagnosis Management Resources

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.

National Asthma Council | Australian Asthma Handbook

New Asthma Treatment Guidelines

See a preview of the update!

COVID-19 and your asthma patients

Find information for health professionals about asthma management, including spirometry, during the COVID-19 pandemic.

Learn more →

Dr Simon Craig seeks consensus for research outcome measures

Meet Dr Simon Craig, 2020 Asthma and Airways Career Development Fellowship recipient.

Learn more →

Conditions

- COPD
- Lung cancer
- Idiopathic Pulmonary Fibrosis
- Bronchiectasis
- Pulmonary Arterial Hypertension
- Childhood Interstitial Lung Disease

Networks

- Lung Cancer Nurse Network
- Respiratory Nurse Network
- Pulmonary Rehabilitation Network
- Multidisciplinary Teams (MDTs)
- Pulmonary Fibrosis Australasian Clinical Trials Network

Lung health

- Caring for your lungs
- Smoking cessation
- Lungs in Action exercise classes
- Pulmonary Rehabilitation

Training & events

- All events
- Training
- Webinars
- Conferences

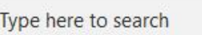
Health Professional Membership

Find out more →

Featured links

- Pulmonary Rehabilitation guidelines & resources →
- COPD-X guidelines & resources →
- Primary Care Respiratory Toolkit →
- Interstitial Lung Disease Toolkit →
- Bronchiectasis Toolbox →

Lung Foundation Australia is working to improve lung health and reduce the impact of lung disease for all Australians.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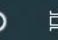

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Asthma-COPD Overlap Facts

- Approximately 20% of patients with obstructive lung disease have features of both asthma and COPD[1]
- Asthma-COPD overlap is not a single well-defined disease, but is likely to have many underlying causes
- Asthma-COPD overlap is now recognised as an important clinical problem
- To date no consensus on a precise definition of Asthma-COPD overlap
- People with asthma-COPD overlap often have poorer disease outcomes than those with asthma or COPD alone e.g. more symptoms, more flare-ups, greater mortality

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Supported by the Australian Government Department of Health

1. Australian Prescriber February 2020

Remember Asthma is:

A chronic lung disease, which can be controlled but not cured

In clinical practice

- Asthma is defined by the presence of **both**:
  - excessive variation in lung function
  - variable respiratory symptoms

- Associated features of other allergic conditions such as rhinitis and eczema may be present as well as a family history, childhood asthma, rapidly relieved by a bronchodilator, eosinophilia or raised blood IgE

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Remember COPD is

A common, preventable and treatable disease that is characterised by persistent respiratory symptoms and airflow limitation which is not fully reversible. The airflow limitation is usually progressive.

The irreversible component of airflow limitation is the end result of inflammation, fibrosis and remodeling of peripheral airways.

In clinical practice, diagnosis is usually based on:

- Symptoms of exertional breathlessness, cough and sputum
- A history of smoking, or exposure to other noxious agents
- $FEV_1/FVC<0.7$ post-bronchodilator

Global Initiative for Chronic Obstructive Lung Disease 2019

COPD-X guidelines

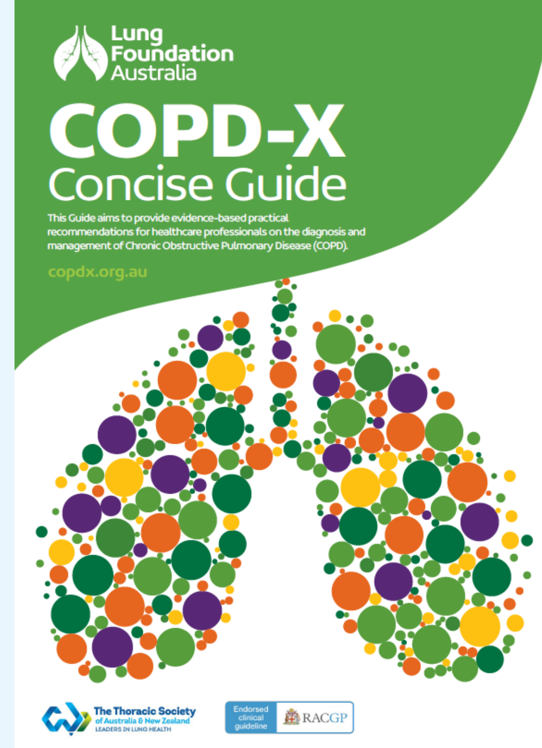
- **C**: case finding and confirm diagnosis
- **O**: optimise function
- **P**: prevent deterioration
- **D**: develop a plan of care
- **X**: manage eXacerbations

COPD-X resources:

copdx.org.au

COPD-X Concise Guide

www.lungfoundation.com.au



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Asthma-COPD Overlap

Asthma-COPD overlap is characterised by persistent airflow limitation with several features usually associated with asthma and several features associated with COPD

In clinical practice asthma-COPD overlap is identified by the features it shares with both

- As asthma-COPD overlap includes several different clinical phenotypes there is likely to be several underlying mechanisms

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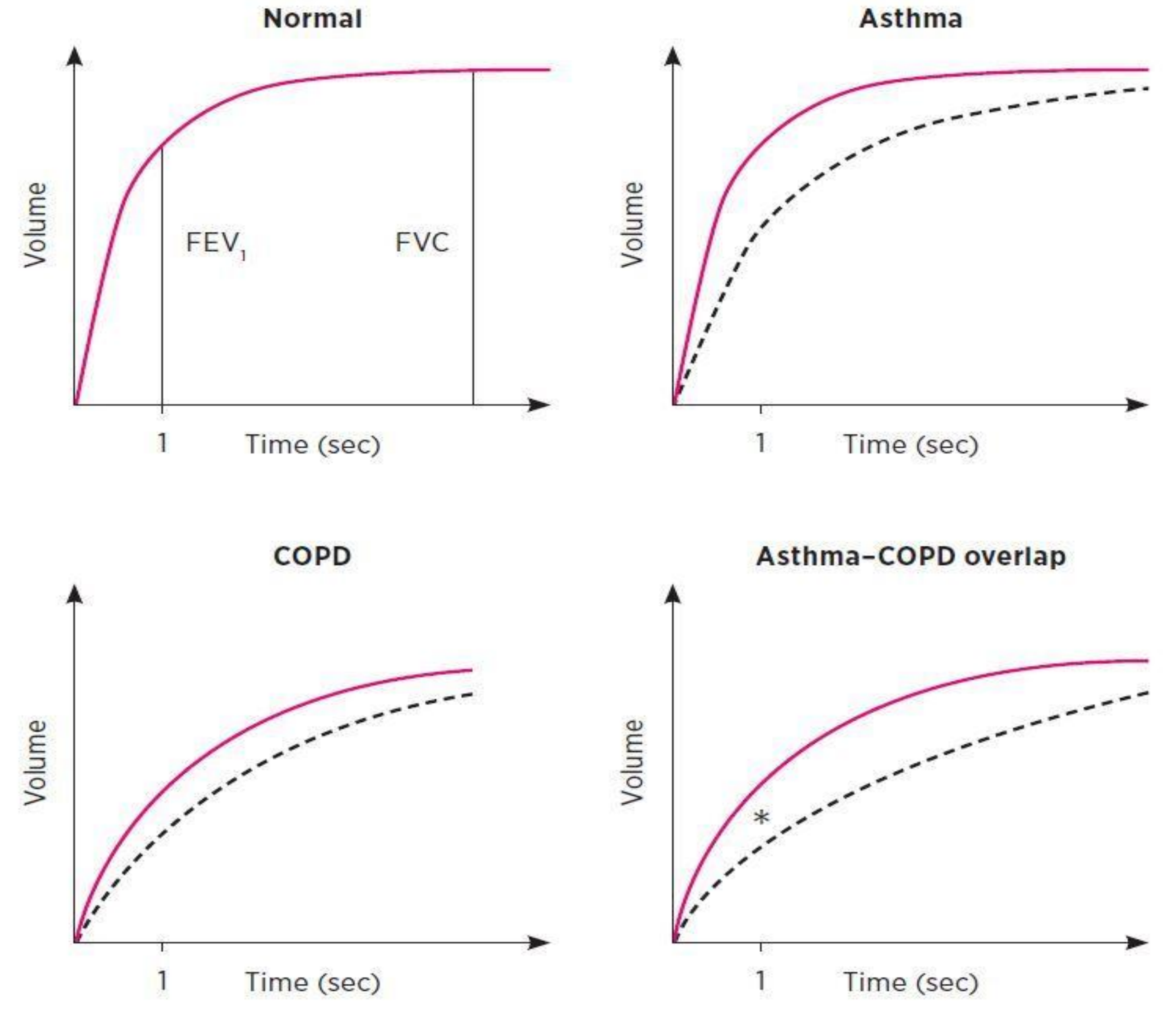
Diagnosis

- Based on:
  - **Detailed medical history** – *chronic or recurrent cough, sputum production, dyspnoea, wheezing, recurring acute lower RTI, exposure to tobacco smoke or other airborne pollutants, previous Dr diagnosed asthma or COPD*
  - **Physical examination** – *may be normal, evidence of hyperinflation, abnormal auscultation*
  - **Spirometry -** *The diagnosis of obstructive lung disease relies on spirometry. Pre and post-bronchodilator should be performed*
  - **Radiology** - *not routine for asthma, but Chest X-Ray, CT scans or MRI may identify an alternative diagnosis*

Spirometry

Finding	Consistent with		
	Asthma	COPD	Asthma-COPD overlap
Normal FEV_1/FVC before or after bronchodilator	Yes	No	No *
Abnormal lung function (post BD reduced FEV_1/FVC and $FEV_1 <$ lower limit of normal)	Yes [#]	Yes	Yes
Airflow limitation with greater bronchodilator reversibility than in healthy population (post BD FEV_1 increase ≥ 12% and 200 mL from baseline)	Yes [±]	Yes	Yes
Marked bronchodilator reversibility FEV_1 increase ≥ 12% and 400 mL from baseline)	Yes	Possible but unusual [†]	Possible [§]



Anne Knight; Aust Prescr 2020;43:7–11; 3 February 2020; DOI: 10.18773/austprescr.2020.002

Characteristic features of asthma and COPD

Feature	Asthma	COPD
Age of onset	• Before age 20 years	• After age 40 years
Pattern of Symptoms	• Variation over minutes, hours or days • Worse during the night or early morning • Triggered by exercise, laughter, dust, exposure to allergens	• Persistent despite treatment • Shortness of breath usually activity related and resolves with rest • Chronic cough and sputum unrelated to triggers
Lung function	• Variable airflow limitation	• Persistent airflow limitation
Lung function between symptoms	• Normal	• Abnormal
Past history/family history	• Previous diagnosis of asthma • Family history of asthma and/or other allergic conditions e.g. eczema • Smoking history nil or <15pack-year	• Previous diagnosis COPD • Heavy exposure to risk factor tobacco smoke (>15 pack-year) or other noxious agent
Time course	• No worsening of symptoms over time, seasonal • Rapid response to bronchodilator or to ICS over weeks	• Symptoms slowly worsen over time • Rapid-acting bronchodilator provides only limited relief

Pack year history = no of cigarettes per day x number of years smoked divided by 20

Adapted from GINA and GOLD 2018

Management of Asthma – COPD overlap

- Bronchodilators for symptom control
- Any features of asthma – prescribe regular low/moderate dose of inhaled corticosteroid (ICS)
- Depending on symptoms consider adding to ICS:
    - Long-acting $beta_2$ agonists (LABAs) or Long acting muscarinic antagonists (LAMAs)
    - LABA/LAMA combination
- All patients should have an Action Plan – updated regularly
- Monitor and treat respiratory tract infections

Asthma–COPD overlap

Management Principles

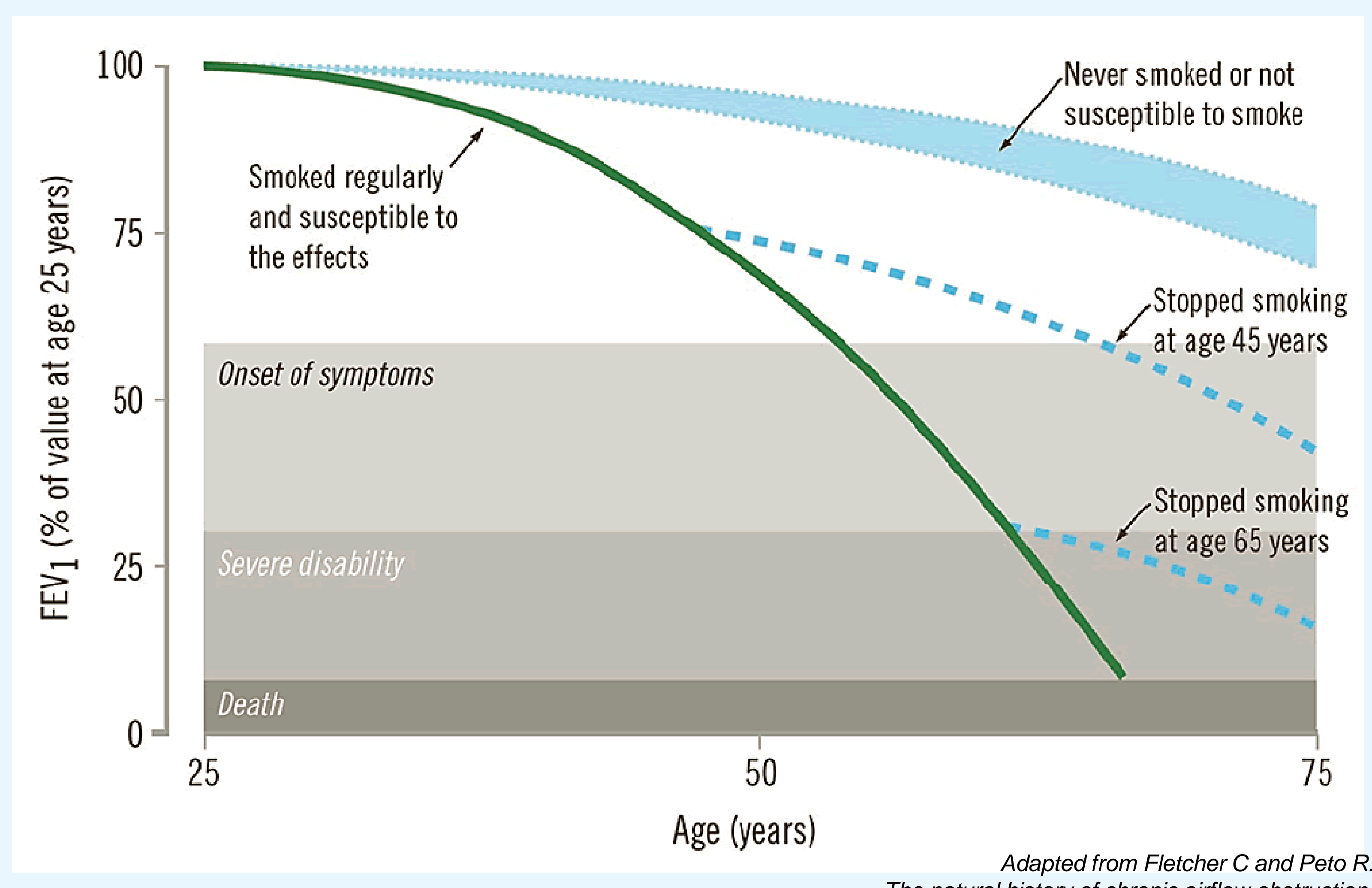
A chronic disease needs ongoing care

- Smoking cessation – all forms!
- Eliminate passive exposure
- Identify triggers - avoidance strategies
- Vaccinations
- Pulmonary rehabilitation
  - Self-management education – inhaler technique and written action plan
  - Healthy well balanced diet
  - Exercise regime/activity levels
  - Stress management
- Regular follow up

Tobacco smoking…………..

- Largest single preventable cause of death and disease
- Passive smoking increased risk of:
    - Heart disease, asthma, COPD, SIDs and some cancers
- Smoking in pregnancy increases health risks to both mother and child
- Smoking worsens asthma and/or COPD
- Reduces effectiveness of inhaled medications
- >10 pack years smoking = effect on lungs

Smoking: effects on lung function



Adapted from Fletcher C and Peto R.
The natural history of chronic airflow obstruction.
BMJ 1977;1:1645-1648
From *COPD-X Checklist,* The Australian Lung Foundation

QUITTING – never give up

- **Stopping smoking** reduces the incidence and progression of lung disease including chronic bronchitis and emphysema
- Smokers who quit at age 50 halve their risk of death caused by smoking
- Quitting by age 30 avoids almost all of the excess risk associated with smoking

“It’s far better to try and try again,

than to fail to try again”.

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 [a]
montelukast
4mg • 5mg • 10mg

Montelukast Tablet [a]
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 †
beclometasone
50mcg • 100mcg

QVAR Autohaler ‡
beclometasone
50mcg • 100mcg

Alvesco Inhaler †
ciclesonide
80mcg • 160mcg

SAMA MEDICATION

Atrovent Metered Aerosol † ^
ipratropium 21mcg

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 #
aclidinium 322mcg

Seebri Breezhaler #
glycopyrronium 50mcg

Incruse Ellipta #
umeclidinium 62.5mcg

ICS/LAMA/LABA

Trelegy Ellipta [c]
fluticasone furoate/umeclidinium/vilanterol
100/62.5/25

LAMA/LABA COMBINATIONS

Spiolto Respimat [c]
tiotropium/olodaterol
2.5/2.5

Brimica Genuair [c]
aclidinium/formoterol
340/12

Ultibro Breezhaler [c]
indacaterol/glycopyrronium
110/50

Anoro Ellipta [c]
umeclidinium/vilanterol
62.5/25

all units in mcg

LABA MEDICATIONS

Oxis Turbuhaler ‡
formoterol
6mcg • 12mcg

Serevent Accuhaler ‡
salmeterol
50mcg

Onbrez Breezhaler ^
indacaterol
150mcg • 300mcg

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

RESOURCES

TREATMENT GUIDELINES

Australian Asthma Handbook: **asthmahandbook.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

National Asthma Council Australia
leading the attack against asthme

ICS, inhaled corticosteroid | LABA, long-acting beta agonist | LAMA, long-acting muscarinic antagonist | SABA, short-acting beta agonist | SAMA, short-acting muscarinic antagonist

PBS PRESCRIBERS † Asthma unrestricted benefit ‡ Asthma restricted benefit [a] Asthma authority required ^ COPD unrestricted benefit # COPD restricted benefit [c] COPD authority required *Check TGA and PBS for current age and condition criteria*

2018
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Medications for Asthma, COPD, Asthma-COPD overlap

Relievers – short-acting $beta_2$ agonists (SABAs)

- Short-acting $beta_2$ agonist can be used for short-term symptom relief in asthma, COPD and asthma-COPD overlap
- Check inhaler technique – where possible use a spacer

Supported by the Australian Government
Department of Health

Long-acting beta2 agonists (LABAs)

- Formoterol (Oxis) – twice daily dosing
- Salmeterol (Serevent) – twice daily dosing
- Indacaterol (Onbrez breezhaler) - once daily dosing

LABAs should not be used in people with asthma or asthma-COPD overlap unless they are also taking an ICS, in combination or separately

Long Acting Muscarinics (LAMAs)

- Tiotropium *(Spiriva Handihaler or Respimat, Braltus Zonda)* - once daily maintenance
- Glycopyrronium (*Seebri Breezhaler)* - once daily maintenance
- Umeclidinium *(Incruse Ellipta)* – once daily maintenance
- Aclidinium (*Bretaris Genuair)* - twice daily maintenance

Combination LABA/LAMA

A single device consisting of a long acting $beta_2$ agonist (LABA) and a long acting muscarinic antagonist (LAMA) and

Available as:

- Vilanterol + umeclidinium (*Anoro Ellipta)* - once daily
- Indacaterol + glycopyrronium (*Ultibro Breezhaler)* – once daily
- Olodaterol + tiotropium (Spiolto Respimat) – once daily
- Formoterol + aclidinium (Brimica Genuair) – twice daily

Combination therapy-ICS/LABA

A single device consisting of a preventer (ICS) and a long acting beta2 agonist (LABA)

Available as:

- Fluticasone propionate/salmeterol (*Seretide, Fluticasone & salmeterol Cipla, Salplus F, Pavtide*) – twice daily
- Fluticasone propionate/formoterol (*Flutiform*)
- Budesonide/formoterol (*Symbicort, DuoResp Spiromax*) – twice daily
- Beclometasone/formoterol (Fostair)
- Fluticasone furoate/vilanterol (*Breo Ellipta*) – once daily

Side effects: due to ICS - dysphonia, oral thrush

Triple combination – ICS/LAMA/LABA

Fluticasone furoate (100mcg ICS) + umeclidinium (62.5mcg LAMA) & vilanterol (25mcg LABA)

Available as:

- Trelegy Ellipta

  Once daily maintenance for those with **moderate to severe** COPD- FEV1 < 50% predicted and 2 or more exacerbations in the last 12 months

Spacer and pMDI suggested checklist

1. Assemble spacer (if necessary)
2. Remove inhaler cap
3. Check dose counter (if applicable)
4. Hold inhaler upright and shake well
5. Insert inhaler upright into spacer
6. Put mouthpiece between teeth without biting and close lips to form good seal
7. Breathe out gently, into the spacer
8. Hold spacer horizontal and press down firmly on canister once
    a) Breathe in slowly, deeply and fully, hold breath for about 5 seconds (**recommended**)

OR

    a) Breathe in and out normally for 4 breaths (tidal breathing)

9. Remove spacer from mouth
10. Breathe out gently
11. Remove inhaler from spacer
12. If an extra dose is needed, repeat steps 4 to 13
13. Replace cap and disassemble spacer

Breezhaler/Handihaler suggested checklist

1. Open cap; open mouthpiece
2. Insert capsule
3. Close mouthpiece until it clicks
4. Press piercing button in once and release (Do not shake)
5. Breathe out gently away from mouthpiece
6. Put mouthpiece between teeth without biting and close lips to form a good seal
7. Breathe in rapidly and steadily, so capsule vibrates
8. Continue to breath in as long as comfortable
9. Hold breath for about 5 seconds or as long as comfortable
10. While holding breath, slip inhaler out of mouth
11. Breathe out gently away from mouthpiece
12. Open mouthpiece and remove used capsule
13. Close mouthpiece and cap

For handihaler repeat steps 6-11 for full dose from capsule

Ellipta suggested checklist

1. Check dose counter (do not shake the inhaler at any time)
2. Slide to cover down until a click is heard
3. Breathe out gently, away from inhaler
4. Put mouthpiece in mouth and close lips to form a good seal. Do not block air vent with your fingers.
5. Breathe in steadily and deeply
6. Hold breath for about 5 seconds or as long as comfortable
7. While holding breath, remove inhaler from mouth
8. Breathe out gently away from inhaler
9. Close the cover.

Genuair suggested checklist

1. Check dose counter (do not shake) and remove cap
2. Hold device horizontally with red button facing straight up DO NOT TILT
3. Press coloured button all the way down then release
4. Ensure coloured control window turns green
5. Breath out gently away from inhaler
6. Place lips tightly around mouth piece
7. Inhale strongly and deeply and continue breathing in after "click" is heard
8. Hold breath for about 5 seconds or as long as comfortable, breath out gently away from inhaler
9. Make sure control window is now red
10. Replace protective cap

Respimat suggested checklist

1. First time load cartridge and prime device
   - check specific loading and priming instructions
2. Hold upright and keeping cap on TURN base in direction of arrows until you hear a click
3. Flip cap OPEN until clicks
4. Breath out; then close lips around mouthpiece
5. While breathing in slowly and deeply PRESS dose button, keep breathing in
6. Hold breath for 5 seconds or as long as comfortable
7. Breathe out gently away from inhaler
8. Close cap
9. Repeat 2-7 for a full dose of 2 inhalations

Written Action Plans

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
- Useful resources: www.asthmahandbook.org.au lungfoundation.org.au

Asthma or COPD action plan?

- Choose the plan depending on the person’s dominant clinical features

ASTHMA ACTION PLAN

Take this ASTHMA ACTION PLAN with you when you visit your doctor

ASTHMA ACTION PLAN

what to look out for

MY COPD ACTION PLAN

Your doctor, nurse and other members of your healthcare team can help you fill in your COPD Action Plan. Review it each year, and also after a flare-up.

Key Points

- Many adults have features of both asthma and COPD
- Asthma, COPD and asthma–COPD overlap are all heterogeneous disorders
- Patients with asthma-COPD overlap are at a higher risk for more serious disease, more symptoms, more flare-ups, greater need for health care utilisation and greater mortality
- Refer for atypical symptoms, flare-ups despite treatment, or complex comorbidities
- Manage patients holistically

Asthma, COPD and COVID-19

Refer to Australian Asthma Handbook and Lung Foundation Website for updates

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

- Asthma–COPD overlap. National Asthma Council Australia, Melbourne, 2017. © 2017 National Asthma Council Australia & Lung Foundation Australia
- www.asthmahandbook.org.au
  - current Australian asthma guidelines- online resource
- www.nationalasthma.org.au
  - Videos, brochures, charts- free to order online
- https://lungfoundation.com.au
- Current COPD guidelines and other resources

Health Professional Network: nationalasthma.org.au

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