All Wales Adult Asthma Management and Prescribing Guideline

Grŵp Strategaeth Meddyginiaethau Cymru Gyfan
All Wales Medicines Strategy Group

Y Grŵp Gweithredu ar Iechyd Anadlol
Respiratory Health Implementation Group

GIG CYMRU NHS WALES

Find out more about this guideline
http://qrinfo.icst.org.uk/adult-asthma-guideline-wales-supporting-notes

CORE PRINCIPLES

- Perform objective tests to confirm a suspected diagnosis of asthma
- All patients should be treated with an inhaled corticosteroid (ICS)
- The **preferred regimen** is a regular ICS/formoterol containing inhaler, with as-needed doses of the same inhaler taken in response to symptoms (maintenance and reliever therapy, or MART)
- In mild asthma with infrequent symptoms, ICS/formoterol can now be used on an **if and when needed basis** (PRN), without regular maintenance dosing. This anti-inflammatory reliever (AIR) approach reduces the risk of exacerbations and unscheduled healthcare attendances compared with daily ICS and PRN SABA
- An alternative regimen is provided. Consider if a patient is stable, with good adherence, infrequent use of SABA (<3 per year) and no exacerbations in the last year on their current therapy. If a patient is poorly controlled they should be **switched to the preferred regimen**.
- Ensure asthma action plan is updated Asthma hub

INHALER PRINCIPLES

- Choice of inhaler is based on patient's preference and technique (use in-check device to assess inspiratory effort)
- Whenever possible choose a device with low global warming potential (GWP) rather than those with high GWP
- If more than one inhaler is prescribed ensure these have the same technique (i.e. do not mix DPIs and MDIs)
- ICS and long-acting beta$_2$ agonists (LABA) MUST be prescribed as a combination product to obviate the risk of patients taking LABA monotherapy (associated with increased risk of mortality)
- MDIs should be used with a spacer device
- Prescribe by brand and specify device (e.g. Fostair NEXThaler)
- At step 3, Fostair and Luforbec are unlicensed options. See page 7 of the supporting notes for further information.

*ASTHMA CONTROL

- Good control is no daytime symptoms, no night time waking, no limitations in activity, no exacerbations
- Before stepping up therapy confirm symptoms are due to asthma and address inhaler technique, adherence and co-morbidity
- Consider stepping down treatment if good control for 3 months

EXACERBATION/EMERGENCY TREATMENT (AIR/MART)

- Administer up to 6 doses of ICS/Formoterol at one minute intervals. Do not go back to SABA therapy.
- If symptoms persist, seek urgent medical advice

Find out more here

Asthmahub

Get your patients to download the AsthmaHub App

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STEP 1: MILD ASTHMA
Start pathway here if mild, infrequent symptoms (<4-5 days/week)

STEP 2: PERSISTENT ASTHMA
Start pathway here if symptoms most days or waking with asthma ≥1/week

STEP 3: ONGOING POOR CONTROL
Uncontrolled, despite good adherence to low dose ICS/LABA*

STEP 4: ADD-ON THERAPIES
Uncontrolled, despite good adherence to moderate dose ICS/LABA*

Preferred regimen - Maintenance and Reliever Therapy (MART) - Patients use the same anti-inflammatory ICS/Formoterol inhaler for maintenance (BD) and reliever (PRN) doses

As needed low dose ICS/Formoterol reliever
Maintenance doses - None
Reliever doses - PRN

DPI

LICENSED OPTIONS INCLUDE:

Symbicort Turbohaler 200/6
1 dose PRN up to 8 doses/day (rarely 12 doses/ day)

Only Symbicort 200/6 Turbohaler has a licence to be used as a reliever alone without regular ICS/formoterol maintenance doses.

The use of other low dose ICS/formoterol inhalers as reliever alone is unlicenced.

MDI

Add-on

MART low dose ICS/ Formoterol
Maintenance doses - 1 dose BD
Reliever doses - PRN

LICENSED OPTIONS INCLUDE:

Symbicort Turbohaler 200/6
Max doses/day: 12

Fostair NEXThaler 100/6
Max doses/day: 8

Fobumix Easyhaler 160/4.5
Max doses/day: 12

DuoResp Spiromax 160/4.5
Max doses/day: 12

Other bioequivalent products may be considered

OR

LICENSED OPTIONS INCLUDE:

Fostair MDI + spacer 100/6
Max doses/day: 8

Luforbec MDI + spacer 100/6
Max doses/day: 8

Other bioequivalent products may be considered

AND

Trial of montelukast 10mg at night
(Discontinue if no benefit after 6 weeks)

MART moderate dose ICS/ Formoterol
Maintenance doses - 2 doses BD
Reliever doses - PRN

OPTIONS INCLUDE:

Symbicort Turbohaler 200/6
Max doses/day: 12

Fostair NEXThaler 100/6
Max doses/day: 8 (unlicensed)

Fobumix Easyhaler 160/4.5
Max doses/day: 12

DuoResp Spiromax 160/4.5
Max doses/day: 12

Other bioequivalent products may be considered

OR

OPTIONS INCLUDE (UNLICENSED):

Fostair MDI + spacer 100/6
Max doses/day: 8

Luforbec MDI + spacer 100/6
Max doses/day: 8

Other bioequivalent products may be considered

AND

Add on LAMA to MART regimen
If no benefit after 3 months, remove LAMA from regimen

LICENSED OPTIONS INCLUDE:

Add on **Spiriva Respimat 2.5mcg**
2 doses OD

DID YOU KNOW?

NHS Wales has set a target to reduce the proportion of high global warming potential (GWP) inhalers from more than 70% to less than 20% by 2025

PRESCRIBE A DPI PREFERENTIALLY UNLESS THE PATIENT CANNOT USE ONE

Learn more here

Alternative (more traditional) regimen - patients use a different inhaler for maintenance (OD or BD) and reliever (PRN)

Regular low dose ICS AND As needed SABA Reliever

DPI

LICENSED OPTIONS INCLUDE:
- Budesonide Easyhaler 200mcg 1 dose BD
- Flixotide Accuhaler 100mcg 1 dose BD

OR

MDI

LICENSED OPTIONS INCLUDE:
- Clenil Modulite 200mcg + spacer 1 dose BD
- Soprobec 200mcg + spacer 1 dose BD
- Qvar Easi-Breathe (BAI) 100mcg 1 dose BD

AND

Regular low dose ICS/LABA AND As needed SABA Reliever

LICENSED OPTIONS INCLUDE:
- Relvar Ellipta 92/22 1 dose OD
- Atectura Breezhaler 125/62.5mcg 1 dose OD
- Fostair NEXThaler 100/6 1 dose BD
- Symbicort Turbohaler 200/6 1 dose BD
- Fobumix Easyhaler 160/4.5 1 dose BD
- DuoResp Spiromax 160/4.5 *1 dose BD*

OR

LICENSED OPTIONS INCLUDE:
- Fostair MDI 100/6 + spacer 1 dose BD
- Luforbec MDI 100/6 + spacer 1 dose BD

AND

Regular moderate dose ICS/LABA AND As needed SABA Reliever

LICENSED OPTIONS INCLUDE:
- Relvar Ellipta 92/22 1 dose OD
- Atectura Breezhaler 125/127.5mcg 1 dose OD
- Fostair NEXThaler 100/6 2 doses BD
- Symbicort Turbohaler 200/6 2 doses BD
- Fobumix Easyhaler 160/4.5 2 doses BD
- DuoResp Spiromax 160/4.5 2 doses BD

OR

LICENSED OPTIONS INCLUDE:
- Fostair MDI 100/6 + spacer 2 doses BD
- Luforbec MDI 100/6 + spacer 2 doses BD

AND

Add on trial of LAMA
Discontinue if no benefit after 3 months

If already on a DPI device:
Add on Spiriva Respimat
2.5mcg
2 doses OD

OR

Switch to Trimbow MDI 87/5/9
2 doses BD
*(Triple therapy containing **moderate dose** ICS/ LABA/LAMA)*

AND

Reliever

LICENSED OPTIONS INCLUDE:
- Ventolin Accuhaler 200mcg 1 dose PRN
- Salbutamol Easyhaler 100mcg 1-2 doses PRN
- Salamol MDI 100mcg + spacer 1-2 doses PRN

Add-on

AND — Trial of montelukast 10mg at night (Discontinue if no benefit after 6 weeks)

AND

STEP 5: CONSIDER REFERRAL

Consider trial of high-dose ICS/LABA and referral to secondary care for asthma phenotyping +/- biological therapy

INDICATIONS FOR REFERRAL:
- Diagnostic uncertainty
- Complex comorbidity
- Suspected occupational asthma
- Poor control following treatment at Step 4
- ≥2 courses of oral steroids/ year

Trial of high dose ICS/ Formoterol

Discontinue if no benefit after 3 months.
Issue steroid warning card.
High dose ICS/LABA can only be used as part of fixed dose regime **with PRN SABA.**
Not to be used as per MART.

WITHOUT LAMA	WITH LAMA
Symbicort Turbohaler 400/12 *2 doses BD*	*High dose ICS/ Formoterol with add on* **Spiriva Respimat 2.5mcg** *2 doses OD*
Fostair NEXThaler 200/6 *2 doses BD*	*Or switch from high dose ICS/LABA to triple therapy containing high dose ICS/LABA/LAMA* **Enerzair Breezhaler 114/46/136** *1 dose OD*
DuoResp Spiromax 320/9 *2 doses BD*	
Fobumix Easyhaler 320/9 *2 doses BD*	
Atectura Breezhaler 125/260mcg *1 dose OD*	
Relvar Ellipta 184/22 *1 dose OD*	
OR	OR
Fostair MDI + *spacer* **200/6** *2 doses BD*	*If already on MDI:* **Switch to Trimbow MDI 172/5/9** *2 doses BD*
Luforbec MDI + *spacer* **200/6** *2 doses BD*	
AND	AND

As needed SABA reliever

Grŵp Strategaeth Meddyginiaethau Cymru Gyfan
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The All Wales COPD Management and Prescribing Guideline

Y Grŵp Gweithredu ar Iechyd Anadlol
Respiratory Health Implementation Group

GIG CYMRU NHS WALES

Also available in digital format

The All Wales COPD Management and Prescribing Guideline

CORE PRINCIPLES

People aged over 35 years who present with one or more features from the COPD likelihood checklist should have post-bronchodilator spirometry.

Once diagnosis is confirmed, start with high-value interventions, including smoking cessation, flu vaccination, pulmonary rehabilitation and, where appropriate, oxygen therapy.

Inhaled therapy is prescribed according to the patient's phenotype.

STEP 1: ASSESSMENT

STEP 1 INFORMATION:
ASSESSMENT

COPD likelihood Checklist

Perform investigations
- **Post-bronchodilator spirometry**
- Chest X-ray (CXR)
- Full Blood Count (FBC)
- Oxygen Sats (SpO_2)
- α-1 anti-trypsin (if family history of emphysema)

COPD likelihood checklist

- ☑ Smoking history (>20 pack years)
- ☑ Other exposures (Pollution, biomass fuel burning, other noxious fume exposure)
- ☑ Exertional breathlessness
- ☑ Chronic cough
- ☑ Regular sputum production
- ☑ Frequent winter 'bronchitis'
- ☑ Wheeze
- ☑ Ankle swelling

Red Flag Symptoms

Red Flag Symptoms
- Persistent cough in a smoker
- Haemoptysis
- Chest pain
- Unexplained weight loss
- Clubbing in a smoker
- Abnormal CXR

Any red flag symptoms?
Perform CXR and refer as urgent suspected cancer

STEP 2: DIAGNOSIS

Post-bronchodilator
FEV1/FVC ratio <LLN

STEP 3: REFER

- ☑ Vaccination - Flu - COVID - Pneumococcal
- ☑ Exercise, education & pulmonary rehabilitation
- ☑ Smoking cessation therapy if required
- ☑ Referral for oxygen assessment if SpO2 is <93% and not smoking
- ☑ Dietary advice Refer if low or high BMI

STEP 4: PRESCRIBE

From the list of inhalers provided, choose the most suitable for the patient, considering inpiratory flow and inhaler technique. Choose a dry powder inhaler preferentially to reduce the carbon footprint, unless the patient cannot use one.

STEP 4 INFORMATION:
PRESCRIBE

Phenotype 1

COPD with predominant breathlessness

Dyspnoea with less than 2 exacerbations per year

Phenotype 2

COPD with Exacerbation (+/- Breathlessness)

Two or more exacerbations per year

Phenotype 3

COPD with asthma overlap (ACOS)

Evidence of significant symptomatic or lung function response to steroids (oral or inhaled). Blood eosinophil counts >0.3

Phenotype 1	Phenotype 2	Phenotype 3
Prescribe LABA + LAMA	**Prescribe Triple therapy** (stop other preventer inhalers)	**Prescribe Triple therapy** (stop other preventer inhalers)
Review exacerbation frequency regularly, and escalate to Phenotype 2 if ≥2 exacerbations/year	If continued exacerbations or breathlessness, review adherence, inhaler technique, and consider referral (see below)	If poorly controlled asthma symptoms, refer to the All Wales Asthma Management guidelines (step 4) - consider MART plus LAMA

STEP 5: REVIEW

Review annually if COPD is well controlled

Poorly controlled?

Consider:
- Inhaler technique
- Non-pharmacological interventions
- Smoking status

If symptoms worsen, consider referral

Manage exacerbations
- Prescribe a SABA
- Prescribe prednisolone (30-40mg once a day for 5 days)
- Prescribe antibiotic if increased sputum purulence, volume and breathlessness

ACOS: Asthma COPD overlap syndrome
CXR: Chest X-ray
DPI: Dry Powder Inhaler
GWP: Global warming potential
FBC: Full Blood Count
ICS: Inhaled Corticosteroid
LABA: Long-acting $Beta_2$ Agonist
LAMA: Long Acting Muscarinic Antagonist
LLN: Lower limit of normal
MDI: Metered Dose Inhaler
SABA: Short-acting $Beta_2$ Agonist
SpO_2: Oxygen Sats
OD: Once daily
BD: Twice a day

Low global warming potential
High global warming potential

Find out more about this guideline
icst.info/the-all-wales-copd-and-management-prescribing-guideline

Find out more here

COPDhub
Get your patients to download the COPD App

DID YOU KNOW?

NHS Wales has set a target to reduce the proportion of high global warming potential (GWP) inhalers from more than 70% to less than 20% by 2025

PRESCRIBE A DPI PREFERENTIALLY UNLESS THE PATIENT CANNOT USE ONE

Learn more here

STEP 4 INFORMATION:
PRESCRIBE

Prescribe a (LABA + LAMA)
Below are options in this category

Duaklir Genuair 340/12 1 dose BD *Forceful and deep*

Ultibro Breezhaler 85/43 1 dose OD *Forceful and deep*

Anoro Ellipta 55/22 1 dose OD *Forceful and deep*

Spiolto Respimat 2.5/2.5 2 doses OD *Gentle and deep*

Bevespi Aerosphere 7.2/5 2 doses BD via spacer *Gentle and deep via spacer*

Ensure patient can use device. All MDIs must be used with a spacer

Prescribe triple therapy (ICS + LABA + LAMA)
Below are options in this category

Trelegy Ellipta 92/55/22 1 dose OD *Forceful and deep*

Trimbow NEXThaler 88/5/9 2 dose BD *Forceful and deep*

Trimbow MDI 87/5/9 2 doses BD via spacer *Gentle and deep via spacer*

Trixeo Aerosphere 5/7.2/160 2 doses BD via spacer *Gentle & deep via spacer*

Ensure patient can use device. All MDIs must be used with a spacer

Manage Exacerbations Prescribe a SABA
Below are options in this category

Salbutamol 100mcg Easyhaler PRN *Forceful and deep*

Ventolin Accuhaler 200mcg PRN *Forceful and deep*

Salamol 100mcg MDI via spacer PRN *Gentle and deep via spacer*

Ensure patient can use device. All MDIs must be used with a spacer

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Designed by The Institute of Clinical Science & Technology

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CORE PRINCIPLES

- Review peak flow, inhaler technique, triggers, vaping, smoking and secondhand smoke exposure at each review.
- Where possible, enrol patient on the AsthmaHub for Parents app
- Review digital control record on patient's app at each review.
- Update digital asthma action plan and medication on patient's app at each review.
- Document your health care interaction on patient's app at each review.

TREATMENT AND INHALER PRINCIPLES

- Use Paediatric low, moderate and high dose Inhaled Corticosteroids (ICS) in children under 12 years
- Use Adult low, moderate and high dose ICS in children aged 12 years and over.
- All MDIs should be used with a spacer [Aerochamber Plus series recommended]. Mouthpiece spacers are more efficient than mask spacers. Children >3 years should be able to use a mouthpiece spacer even when unwell.
- Consider Dry Powder Inhalers (DPI) in children 6 years and over, and trial DPI as first line in children 12 years and over.
- For children already on metered dose inhalers (MDI), consider "switch from six" from MDI to DPI according to patient preference. Ensure adequate technique training. Review response to any change of therapy within 3 months.
- Prescribe by brand to ensure consistent device.
- ICS and LABA must always be in combination inhaler.
- Prescribe SABA MDI and spacer for emergency use to all children.

NHS WALES GREEN AGENDA

NHS Wales has set a target to reduce the proportion of high global warming potential inhalers from more than 70% to less than 20%, by 2025.

Low global warming potential — High global warming potential

METERED DOSE INHALERS (MDI) HAVE A HIGHER CARBON FOOTPRINT THAN DRY POWDER INHALERS (DPI)

	STEP 1: NEW ASTHMA DIAGNOSIS	STEP 2: PERSISTENT SYMPTOMS	STEP 3	STEP 4	STEP 5
Age under 6yrs — MDI	Following a positive treatment trial *(see paediatric asthma diagnosis guideline)* Commence **Paediatric low dose ICS** plus PRN SABA **ICS OPTIONS INCLUDE:** **Clenil modulite 100mcg** *1 dose BD via spacer* **SABA OPTIONS INCLUDE:** **Salamol 100mcg** *via spacer* Mask spacer age <3 yrs Mouthpiece spacer age >3yrs Recommend Aerochamber Plus series	**Trial of montelukast (as add on therapy)** 4mg nocte As granules aged < 2 years As chewable tablet aged > 2 years Discontinue if no benefit after 6 weeks	**Referral to secondary care asthma services**	**Referral to specialist clinics or tertiary asthma services for reassessment**	**Referral to specialist clinics or tertiary asthma services for reassessment**
Age under 4yrs			*Change to* **Paediatric moderate dose ICS** *plus PRN SABA* **ICS OPTIONS INCLUDE:** **Clenil modulite 100 mcg** *2 doses BD via spacer*		
Age 4yrs and over			*Change to* **Paediatric moderate dose ICS** *plus PRN SABA* **ICS OPTIONS INCLUDE:** **Clenil modulite 100 mcg** *2 doses BD via spacer*	Change to **Paediatric moderate dose ICS/LABA** *plus PRN SABA* **ICS/LABA OPTIONS INCLUDE:** **Seretide 50/25 Evohaler** *2 doses BD via spacer*	
Age 6-11yrs — DPI	Commence **Paediatric low dose ICS** plus PRN SABA Consider DPI in children aged >6 years with appropriate training **ICS OPTIONS INCLUDE:** **Budesonide 100mcg Turbohaler (Pulmicort)** *1 dose BD* **SABA OPTIONS INCLUDE:** **Terbutaline 500mcg Turbohaler** *prn*	**Trial of montelukast (as add on therapy)** 5mg nocte Discontinue if no benefit after 6 weeks	Change to **Paediatric low dose ICS/LABA** plus PRN SABA Consider DPI in children aged >6 years with appropriate training **ICS/LABA OPTIONS INCLUDE:** **Symbicort 100/6 Turbohaler** *1 dose BD*	**Referral to secondary care asthma services for reassessment**	Change to **Paediatric moderate dose ICS/LABA** plus PRN SABA Consider DPI in children aged >6 years with appropriate training **ICS/LABA OPTIONS INCLUDE:** **Symbicort 100/6 Turbohaler** *2 doses BD*; **Seretide 100 Accuhaler** *1 dose BD*	**Referral to specialist clinics or tertiary asthma services for reassessment**
Age 6-11yrs — MDI	**ICS OPTIONS INCLUDE:** **Clenil modulite 100mcg** *1 dose BD via spacer* **SABA OPTIONS INCLUDE:** **Salamol 100mcg** *via spacer PRN*; **Salbutamol easy-breathe** *100mcg PRN*		**ICS/LABA OPTIONS INCLUDE:** **Seretide 50/25** *2 doses OD-BD via spacer*		**ICS/LABA OPTIONS INCLUDE:** **Flutiform 50/5** *2 doses BD via spacer*; **Seretide 50/25** *2 doses BD via spacer*	
Age 12yrs and over — DPI	Commence **Adult low dose ICS** plus PRN SABA Trial DPI as first line in children aged >12 years with appropriate training **ICS OPTIONS INCLUDE:** **Budesonide 100mcg Turbohaler (Pulmicort)** *1-2 doses BD*; **Budesonide 100mcg Easyhaler** *1-2 doses BD* **SABA OPTIONS INCLUDE:** **Terbutaline turbohaler 500mcg** *prn*; **Salbutamol easyhaler 100mcg** *prn*	**Trial of montelukast (as add on therapy)** Age 12-14 yrs: 5mg nocte Age 15-17 yrs: 10mg nocte Discontinue if no benefit after 6 weeks	Change to **Adult low dose ICS/LABA** plus PRN SABA 1. Fixed dose plus PRN SABA OR 2. MART regime plus emergency SABA Trial DPI as first line in children aged >12 years with appropriate training **FIXED DOSE ICS/LABA OPTIONS INCLUDE:** **Symbicort 100/6 Turbohaler** *2 doses BD*; **Relvar Elipta 92/22** *1 dose OD* **MART REGIME OPTIONS INLCUDE:** **Symbicort 100/6 Turbohaler** *1 dose BD plus additional doses as needed (max 8 doses/24 hrs)* **ICS/LABA OPTIONS INCLUDE:** **Flutiform 50/5** *2 doses BD via spacer*; **Seretide 50/25** *2 dose BD via spacer*	**Referral to secondary care asthma services for reassessment**	Change to **Adult moderate dose ICS/LABA** plus PRN SABA 1. Fixed dose plus PRN SABA OR 2. MART regime plus emergency SABA Trial DPI as first line in children aged >12 years with appropriate training **FIXED DOSE ICS/LABA OPTIONS INLCUDE:** **Symbicort 200/6 Turbohaler** *2 doses BD*; **Relvar Elipta 184/22** *1 dose OD* **MART REGIME OPTIONS INCLUDE:** **Symbicort 200/6 Turbohaler** *1-2 doses BD plus additional as needed (max 8 doses/24 hrs)* **FIXED DOSE ICS/LABA OPTIONS INCLUDE:** **Flutiform 125/5** *2 doses BD via spacer*; **Seretide 125/25** *2 doses BD via spacer*	**Referral to specialist clinics or tertiary asthma services for reassessment**
Age 12yrs and over — MDI	**ICS OPTIONS INCLUDE:** **Clenil modulite 100mcg** *1-2 doses BD via spacer* **SABA OPTIONS INCLUDE:** **Salamol 100mcg** *via spacer PRN*; **Salbutamol easy-breathe** *100mcg PRN*					

DPI: Dry Powder Inhaler
ICS: Inhaled Corticosteroid
LABA: Long-acting Beta$_2$ Agonist
LAMA: Long Acting Muscarinic Antagonist
MART: Maintenance and Reliever Therapy
MDI: Metered Dose Inhaler
PRN: *Pro re nata* 'as needed'
SABA: Short-acting Beta$_2$ Agonist
OD: Once daily
BD: Twice a day

ICS categorisation (beclometasone dipropionate equivalent)

-Paediatric low dose 200mcg/day
-Paediatric moderate dose 200-400mcg/ day
-Paediatric high dose >400 mcg/day

-Adult low dose 400mcg/day
-Adult moderate dose 400-800mcg/ day
-Adult high dose >800 mcg/day

ICS dosing categories used here from NICE (NG80)

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