

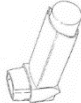

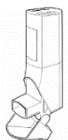




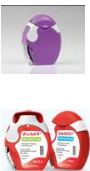



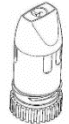



Chronic Obstructive Pulmonary Disease (COPD) Inhaler Types and Devices Nov 2023

(Licensed / commonly used for COPD) See [Norfolk & Waveney net.formulary](https://www.norfolkandwaveney.nhs.uk/norfolk-waveney-net-formulary) for full details. Device choice should be based on *product licence*, *patient ability to use the device*, *Global Warming Potential (GWP)* and *cost*. **Local formulary 1st choice options based on drug content, lowest GWP (DPI/ SMI) and cost.**

Alternative formulary options. Non-formulary for COPD. **NEW Under discussion**

DEVICE TYPE	Breath-Actuated (BA) Dry Powder Inhaler (DPI) – low GWP		Soft mist MDI – low GWP	Pressurised Metered Dose Inhaler p MDI -high GWP	
	Pre-loaded dose	Dose loading	BA dose loading	Standard	Breath-actuated
Short-Acting Beta Agonist SABA	Salbutamol: Easyhaler®, Ventolin Accuhaler® Terbutaline: Bricanyl Turbohaler®	Salbutamol: Salbulin Novolizer®		Salbutamol: Airomir® (‡ a,b) , Generic various, Salamol® (‡ a,c), Ventolin Evohaler® (‡ a,c) highest GWP	Salbutamol: Airomir Autohaler® Salamol Easi-Breathe®
Anti-Muscarinic SAMA	Please note: SAMA alone is now very rarely prescribed for COPD patients.			Ipratropium: Atrovent® (‡ a,b)	
Long-Acting Beta-Agonist LABA	Formoterol: Easyhaler®, Oxis Turbohaler® Salmeterol: Serevent Accuhaler®	Formoterol: Foradil® Aerolizer Indacaterol: Onbrez® Breezhaler	Olodaterol: Striverdi Respimat®	Formoterol: Atimos Modulite® (‡ a), Salmeterol: Generic various brands, Serevent Evohaler® (‡ a,c)	Formoterol is preferred vs salmeterol due to faster onset of action
Anti-Muscarinic LAMA	Aclidinium: Eklira Genuair® Umeclidinium: Incruse Ellipta®	Tiotropium: Acopair Neumohaler® Braltus Zonda® Spiriva Handihaler®, Tiogiva® Glycopyrronium: Seebri Breezhaler®	Tiotropium: Spiriva Respimat®	Please note: For patients on more than one device (excl. SABA)– please consider moving to appropriate combination inhaler to reduce both cost and global warming potential. Adherence is likely to improve if patients use just one type of device. Very few patients should be prescribed just a LAMA or LABA alone	
Combination (prescribe by brand) LAMA + LABA	Aclidinium / Formoterol: Duaklir Genuair® Umeclidinium / Vilanterol: Anoro Ellipta®	Glycopyrronium / Indacaterol: Ultibro Breezhaler®	Tiotropium / Olodaterol Spiolto Respimat®	Glycopyrronium / Formoterol: Bevespi Aerosphere® 7.2 / 5 (‡ d)	For patients who still need to use pMDIs (e.g. reduced inspiratory flow / ability to use a DPI / SMI) Green font = 1 st choice pMDI option(s) based on drug content, GWP and cost
ICS + LABA	Budesonide / Formoterol: DuoResp Spiromax®, Fobumix Easyhaler® 160/4.5 & 320/9, GoResp®, Digihaler, Symbicort Turbohaler® 200/6 & 400/12, WockAIR® Extra fine Beclometasone / Formoterol: Fostair NEXThaler® 100/6 Fluticasone / Salmeterol: AirFluSal Forspiro® 50/500, Fixkoh Airmaster 50/500, Fusacomb Easyhaler® 50/500, Stalpex® Inhaler 50/500, Seretide Accuhaler® 50/500 Fluticasone furoate/ Vilanterol: Relvar Ellipta® 92/22			Extra fine Beclometasone / Formoterol: Bibecfo® 100/6 (‡ a,b), Fostair® 100/6 (‡ a,b), Luforbec® 100/6 (‡ b) Budesonide / Formoterol: Symbicort® MDI 200/6 (‡ b) highest GWP	
Triple therapy ICS + LABA + LAMA	Extra fine Beclometasone / Formoterol / Glycopyrronium: Trimbrow® NEXThaler 88 / 5 / 9 Fluticasone furoate / Vilanterol / Umeclidinium: Trelegy Ellipta® 92 / 22 / 55			Extra fine Beclometasone / Formoterol / Glycopyrronium: Trimbrow® 87 / 5 / 9 (‡ b) Budesonide / Formoterol / Glycopyrronium: Trixeo Aerosphere® 160 / 5 / 7.2 (‡ d)	

Table to show images and features of the more commonly used devices for COPD

DEVICE TYPE	Pressurised MDI		Breath-actuated MDI		Breath-actuated Dry Powder											
	Pressurised		Dose loading		Pre-loaded dose								Dose loading (e.g. with capsule)			
	p MDI		Autohaler® Teva	Easi-breath e® Teva	Respimat® Boehringer	Accuhaler® GSK	Easyhaler® Orion	Ellipta® GSK	Forspiro® Sandoz / Wockhardt	Genuair® Almiral	NEXT-haler® Chiesi	Spiromax® Teva	Turbohaler® Astra-Zeneca	Breez-haler® Novartis	Handi-haler® Boehringer	Zonda® Teva
INFO ^{1,2,3}																
Dexterity	Required to press/attach to spacer	Minimal	Minimal	Required to set up and prime	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Required to load capsule	Required to load capsule	Required to load capsule	
Dose counter/indicator	Bibecfo, Fostair, Luforbec, Symbicort, Trimbrow, Aerosphere			✓	✓	✓	✓	✓	✓	✓	✓	✓	x	x	x	
Shelf life <i>May depend on drug content</i>	Depends on product/temperature / if 'in use' (e.g. 3 months -2 years)			3 years (In use 3 months)	2 years	2-3 years (in use 1-6 months)	2 years (in use 6 weeks)	2 years	3 years (in use 60-90 days)	3 years (in use 6 months)	2-3 years (in use 3-6 months)	2 years	Caps 24-30 months.	2 years (after blister open – 9 days)	24 months (caps in use 60 days)	
Airflow resistance	Minimal	Low	Low	Low	Med-low	High	Med-low	Medium	Medium	Med-high	Medium	Medium / Med-high	Low	High	High	
Dosing Frequency	Depends on drug content & product			Once daily	Depends on content	Depends on content	Once daily	Twice daily	Twice daily	Twice daily	Twice daily	Twice daily	Usually twice daily	Once daily	Once daily	Once daily
Actuation check	Audible puff/taste	Audible click	Propellant taste	Audible click	Visual/lactose taste	Lactose taste	Visual/audible	Visual	Audible/visual/lactose taste	Audible/visual/lactose taste	Audible/visual/lactose taste	none	Audible whirring/lactose taste	Capsule vibration	Capsule vibration/clear caps	
Other information	Shake before use Aerosphere needs priming	Shake before use	Shake before use	Tricky to set up for 1 st use	Push lever to prime	Shake & press to prime. QR code to video	Open to prime.	Push lever to prime	Press to prime	Open to prime	Open to prime	Twist to prime	Press to pierce. Inhale twice	Press to pierce. Inhale twice	Press to pierce. Inhale twice	

1. Summary of Product Characteristics (SPC) 2. MIMs online accessed 25.7.22 3. In-Check Dial © G16 # SPACERS (MIMs online Nov 2023)) Also see [KM Bulletin 18 inhaler spacer devices](#):

Local Respiratory Formulary spacer options: a = A2A Spacer, Space Chamber Plus b = Aerochamber Plus, Aerochamber Plus Flow-vu c = Volumatic d- Aerochamber Plus Flow -vu. C = Certified carbon neutral devices

Title	COPD Inhaler Types and Devices
Description of policy	<i>To inform healthcare professionals</i>
Scope	<i>Information to show available choices of inhalers</i>
Prepared by	Medicines Optimisation Team
Evidence base / Legislation	Level of Evidence: <i>A. based on national research-based evidence and is considered best evidence</i> B. mix of national and local consensus <i>C. based on local good practice and consensus in the absence of national research based information.</i>
Dissemination	Is there any reason why any part of this document should not be available on the public web site? <input type="checkbox"/> Yes / No <input checked="" type="checkbox"/>
Approved by	Prescribing & Medicines Management Senior Team 22.5.13 v1.0, 26.2.15v2.0, 22.10.15 v3, 17.1.17 v3.2, 23.5.17 v4.0, 13.2.18 v4.2, 19.11.18 v5.0, 18.7.19 V5.1, 04.11.19 V5.2, 17.6.21 V5.3
Authorised by	Prescribing & Medicines Management Senior Team 22.5.13, 26.2.15 v2.0, 11.9.15 v3.0, 21.4.16 v3.1, 17.1.17 v3.2 13.2.18 v4.2, 19.11.18 v5.0, 18.7.19 V5.1 21.10.21 V6.0 Prescribing Reference Group 8.6.17 v4.0, 19.8.22 v6.1
Review date and by whom	Update – MC – Nov 2023
Date of issue	Nov 2023

Version Control (To be completed by policy owner)

Version	Date	Author	Status	Comment
1.0	22.5.13	Prescribing & Medicines Management Team (MC)	Final	Approved by Senior Team
1.1	19.2.15	Prescribing & Medicines Management Team (MC)	draft	Logo updated. New inhalers available to date added. Approved by Prescribing & Meds Man Senior Team, minor syntax changes
2.0	26.2.15	Prescribing & Medicines Management Team (MC)	Final	
2.1	11.9.15	Prescribing & Medicines Management Team (MC)	draft	New product additions- Spiolto Respimat and Sirdupla. Addition of link to formularies. New table with device images.
2.2	11.9.15	Prescribing & Medicines Management Team (MC)	draft	Indication of formulary options added.
2.3	12.10.15	Prescribing & Medicines Management Team (MC)	draft	Approved at Prescribing Reference Group 6.10.15. Prescribe by brand info & clearer indication of cost effective options.
3.0	22.10.15	Prescribing & Medicines Management Team (MC)	FINAL	Further amendments finalised by Senior Prescribing Team
3.1	19.4.16	Prescribing & Medicines Management Team (MC)	update	Removed: Pulvinal salbutamol & beclometasone , Asmasal clickhaler salbutamol-discontinued. Added new product – AirFluSal Forspiro
3.2	21.11.16	Prescribing & Medicines Management Team (MC)	FINAL	Separate into two documents Asthma & additional COPD document produced. Remove Asthma only drugs and colour coded license info from this version. Remove ICS only row as none licensed for COPD. Removed discontinued products and new ones added. Addition of spacer information. Info added for 'black type' products in the table. Final approval Senior Prescribing Team 17.1.17
3.3	19.4.17	Prescribing & Medicines Management Team (MC)	update	Added Aerivo Spiromax. Amended page 2. Delete drug content information and replace with device information. Deleted less common novolizer and aerolizer columns. Added ipratropium. Approved by Senior Prescribing Team 23.5.17

4.0	19.6.17	Prescribing & Medicines Management Team (MC)	FINAL	Ratified by prescribing reference group 8.6.17. Add link to COPD guideline. Amend named spacers to formulary only
4.1	08.01.18	Prescribing & Medicines Management Team (MC)	Draft update	Added new triple therapy inhalers and green as both more cost effective than prescribing separately – Trelegy & Trimbrow. Added new combined easyhaler ICS + LABA –Fobumix – as cost effective. Symbicort price reduction so made green.
4.2	21.2.18	Prescribing & Medicines Management Team (MC)	update	Minor formatting change. KA links updated. Ratified by Senior Prescribing Management Team 13.2.18
4.3	18.10.18	Medicines Optimisation Team (MC)	Draft update	Logo change. Spacer info changed in line with updated formulary. Amended colour code to green first line formulary, amber alternative formulary options plus black – other licensed options available. Fusacomb Easyhaler added
5.0	19.11.18	Medicines Optimisation Team (MC)	FINAL	
5.1	10.07.19	Medicines Optimisation Team (MC)	update	Aerivio Spiromax removed as discontinued. Stalpex added. Ratified at Senior Team meeting 18.7.19
5.2	04.11.19	Medicines Optimisation Team (MC)	update	Spiriva Respimat changed to green 1 st line option, approved via email Prescribing Senior Team – patient choice and reduced cost.
5.3	08/06/21	Medicines Optimisation Team (MC)	FINAL	Changed NHS logo to new CCG version. Amended device choice to remove p MDI preferred and include GWP as choice consideration. Updated choices as per updated formulary- Aerospheres added. Autohaler, Fixkoh Airmaster, Ventolin Evohaler & Symbicort MDI non-formulary, Ventolin Accuhaler formulary. Ratified by Senior Team 17.6.21
5.4	13.10.21	Medicines Optimisation Team (MC)	DRAFT	New inhalers added in line with formulary place- Trimbrow NEXThaler, Luforbec, Tiogiva – added Easyhaler information – added shake before prime Header colour changes and info added to highlight the lower GWP for DPIs. Wording amended to clarify what 'green' 1 st line options refer to. High GWP added to relevant inhalers. Approved at MOST 21.10.21
6.0	7.12.21	Medicines Optimisation Team (MC)	FINAL	Additional new inhaler added – Acopair Neumohaler
6.1	22.08.22	Medicines Optimisation Team (MC)	update	AGEM logo removed – new ICS/ICB logos added New box added to remind that SAMA alone is rarely used. New box added to advise that combination inhalers should be used where possible Update in line with PQS 22/23 Greener/cost effective inhalers-Colour coding changed so that highlighted green are all 1st choice only (drug content, GWP & cost). Generic salbutamol pMDI – made non formulary, Airomir p MDI changed to alternative. Salbulin novolizer added as alternative DPI Ventolin Accuhaler made green 1st choice option (price reduction to same price as easyhaler from 1st Aug 22) ICS+LABA – new inhaler WockAIR added – more cost effective than others so added as additional 1st choice option. Luforbec amended to 1st choice option as less expensive than equivalent Fostair pMDI and also carbon neutral (offset). Fixkoh Airmaster – amended as alternative cost effective DPI equivalent fluticasone/sameterol content.

				Tiogiva added as most cost effective Tiotropium DPI. Acopair added as alternative tiotropium. All others changed to alternative options based on cost
6.2	14.11.23	Medicines Optimisation Team (MC)	update	GoResp® Digihaler added in blue as still under discussion. Bibecfo added -cost effective Luforbec equivalent C as superscript and ref C= Certified carbon neutral devices added to relevant devices as more become carbon neutral- all Easyhalers, Chiesi inhalers and Luforbec