Beth Israel Lahey Health

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Inhaler Selection Guide – Summary

Full Update 4/2021; Quick View Chart (P.1) Updated 3/2023

The following information is designed to guide and inform prescribers on the selection of different inhalers for ambulatory patients at the point of prescribing. Preference for different agents shown is based on which agents are most widely covered by major commercial payors (BCBS, HPHC, and Tufts) across the BILH Network, it ***does not imply clinical preference***. This information does not apply to all commercial products, nor does it apply to Medicare Part D patients. Refer to individual insurance plan information for other commercial and Part D plans.

Document Content (Quick Links)

Quick View: Consider these first (based on insurance coverage and lowest cost)

Write for Brand name agents and allow for generic substitution where available.
Where Brand is preferred, do not write No Substitution. This will allow the pharmacy to choose what is covered by the plan.

	Commercial Plans (BCBS, HPHC, Tufts)	MassHealth
Short-acting beta agonist (SABA) inhalers		
DPI	*	None are Covered
MDI	albuterol HFA *(allow generic substitution)*	Proventil or Ventolin HFA brand
Inhaled Corticosteroids (ICS)		
DPI	Arnuity Ellipta	Flovent Diskus
MDI	Flovent HFA brand	Flovent HFA brand
Long-Acting Beta-Agonists (LABA)		
DPI	Serevent Diskus	None are Covered
MDI	*	Striverdi Respimat
Inhaled corticosteroid/Long-acting beta agonist (ICS/LABA)		
DPI	AirDuo Respiclick (Preferred) *(allow generic substitution)* OR Advair Diskus *(allow generic substitution)*	Advair Diskus brand
MDI	Symbicort brand	Dulera HFA
Long-Acting Muscarinic Antagonist (LAMA)		
DPI	Spiriva Handihaler	Spiriva Handihaler
MDI	Spiriva Respimat	Spiriva Respimat
Long-acting muscarinic antagonist/beta agonist (LAMA/LABA)		
DPI	Anoro Ellipta	None are covered
MDI	Stiolto Respimat	None are covered
Triple therapy (LAMA/LABA/ICS)		
DPI	Trelegy Ellipta	None are covered
MDI	Breztri Aerosphere	None are covered

DPI = Dry-powder inhaler | MDI = Metered-dose inhaler | BCBS = Blue Cross Blue Shield | HPHC = Harvard Pilgrim Health Care
THPP = Tufts Health Public Plans | BMC = BMC HealthNet | * no single agent is universally covered, please see individual plan coverage

Beth Israel Lahey Health
Inhaler Selection Guide – Details

Updated 3/2023

There is little clinical difference between inhalers within the same class, so choosing the inhaler that is easiest for patients to successfully use is the most important factor when selecting an inhaler.

Asthma and COPD are very expensive disease states with costs driven largely by healthcare utilization and medication cost. Despite the high cost, inhalers can help drive down the overall cost of disease management by reducing healthcare utilization in the form of emergency department visits and hospitalizations. For this reason, proper adherence to inhalers is vital from the perspective of both patient care and reduction in total medical expenditure (TME).

Ensuring proper inhaler adherence starts at the point of prescribing and should continue with each follow-up appointment. Adherence to inhaler therapy is often challenging due to constraints such as insurance coverage, cost, and proper technique. Identifying the most appropriate inhaler at the point of prescribing is important for patient engagement. This document is designed to guide in the decision-making process for determining which inhaler patients are most likely to successfully adhere to.

Document outline – click on the links below to be directed to the desired topic

Choose the inhaler class	Determine Insurance Coverage	Determine delivery device	Determine potency and dose	Educate patient	Reassess
ICS or ICS/LABA • Considerations • Inhaler chart ***LAMA, LABA, or LAMA/LABA*** • Considerations • Inhaler chart	**Coverage Tips (see most recent *BILH Inhaler Coverage and Preference Chart* for plan-specific coverage info)**	**Decision Guide and List of Devices**	*(Refers to ICS only)* **General Considerations** **Dose Comparison Charts** • ICS • ICS/LABA • Triple Therapy	**Review Proper Inhaler Technique**	**General Considerations** **Reassessment Cycle** **Reassessment Reference Chart**

ICS = Inhaled Corticosteroid
LABA = Long-Acting Beta Agonist
LAMA = Long-Acting Muscarinic Antagonists

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Section 1
Choose the most appropriate inhaler class for the patient

Considerations for ICS and ICS/LABA		
	Asthma*	**COPD****
General considerations	• There is no clinical difference in the effectiveness of different ICS or ICS/LABA inhalers within each class when used at appropriate comparative doses • Identifying the minimum effective ICS dose for all patients is important for minimizing risk of adverse effects, including pneumonia, in both asthma and COPD • Patients must be counseled to rinse their mouth and/or brush their teeth immediately after each use to prevent thrush and minimize bad taste	
Inhaled corticosteroids (ICS)	• ICS is the backbone of asthma therapy based on data showing reductions in exacerbations, hospitalizations, and mortality	• Not recommended as monotherapy for COPD
Inhaled corticosteroids/ long-acting beta agonists (ICS/LABA)	• For patients not well-controlled on ICS alone, combination with LABA can reduce symptoms and exacerbations while also potentially limiting need for higher doses of ICS	• For patients who require ICS therapy, triple therapy is preferred over ICS/LABA combination

*Based on recommendations from the Global Initiative for Asthma (GINA) 2022 Report

**Based on the Global Initiative for Chronic Obstructive Lung Disease 2023 GOLD Report

List of ICS and ICS/LABA inhalers			
Drug Class	**Brand Name**	**Active Ingredient**	**FDA-Approved Indication(s)**
Inhaled corticosteroid (ICS) inhalers	Alvesco HFA	ciclesonide	Asthma
	ArmonAir Digihaler	fluticasone propionate	Asthma
	Arnuity Ellipta	fluticasone furoate	Asthma
	Asmanex HFA	mometasone	Asthma
	Asmanex Twisthaler	mometasone	Asthma
	Flovent Diskus	fluticasone propionate	Asthma
	Flovent HFA*	fluticasone propionate	Asthma
	Pulmicort Flexhaler	budesonide	Asthma
	QVAR Redihaler	beclomethasone	Asthma
Inhaled corticosteroid/ Long-acting beta agonist (ICS/LABA) inhalers	Advair Diskus*	fluticasone/salmeterol	Asthma, COPD
	Advair HFA	fluticasone/salmeterol	Asthma
	AirDuo Respiclick*	fluticasone/salmeterol	Asthma
	Breo Ellipta	fluticasone furoate/vilanterol	Asthma, COPD
	Dulera HFA	mometasone/formoterol	Asthma
	Symbicort HFA*	budesonide/formoterol	Asthma, COPD
	Wixela Inhub	fluticasone/salmeterol	Asthma, COPD

*Generically available

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Considerations for LAMA, LABA, combination (LAMA/LABA), and triple therapy (LAMA/LABA/ICS)		
	Asthma*	**COPD****
General considerations	• There is generally no clinical difference in the effectiveness of different inhalers within each class, although only select LAMA agents are indicated for asthma management • Once initiated, LAMA and LABA inhalers do not require dose adjustments as each product is available as a single strength	
Long-acting muscarinic antagonists (LAMA)	• Not recommended as monotherapy for asthma patients	• Recommended as initial bronchodilator therapy in patients with low symptom burden and minimal exacerbation history. More effective than LABA monotherapy for prevention of exacerbations and hospitalizations
Long-acting beta agonists (LABA)	• LABA monotherapy is contraindicated in asthma and must only be used in a combination inhaler with ICS	• LABA monotherapy can be used as initial therapy in patients at low risk for exacerbations or in which LAMA monotherapy is not recommended
Long-acting muscarinic antagonist/beta agonist (LAMA/LABA)	• LAMA/LABA combination inhalers are not recommended for asthma patients as they should only be used alongside an ICS	• Use of LAMA/LABA in combination has been shown to reduce symptoms and exacerbations more than either agent used as monotherapy
Triple therapy (LAMA/LABA/ICS)	• Select LAMA agents, when used in addition to or in combination with ICS/LABA, can improve lung function and decrease exacerbations	• Single-inhaler triple therapy can be used for further reduction in symptoms and exacerbations, with potential reductions in all-cause mortality in certain patients, compared to mono and dual therapies

*Based on recommendations from the Global Initiative for Asthma (GINA) 2022 Report

**Based on the Global Initiative for Chronic Obstructive Lung Disease 2023 GOLD Report

List of LAMA, LABA, combination (LAMA/LABA), and triple therapy (LAMA/LABA/ICS) inhalers			
Drug Class	**Brand Name**	**Active Ingredients**	**FDA-Approved Indication(s)**
Long-acting muscarinic antagonist (LAMA)	Incruse Ellipta	umeclidinium bromide	COPD
	Spiriva Handihaler/Respimat	tiotropium bromide	Asthma*, COPD
	Tudorza Pressair	acildinium bromide	COPD
Long-acting beta agonist (LAMA)	Serevent Diskus	salmeterol	COPD
	Striverdi Respimat	olodaterol	COPD
Long-acting muscarinic antagonist/beta agonist (LAMA/LABA)	Anoro Ellipta	umeclidinium/vilanterol	COPD
	Bevespi Aerosphere	glycopyrrolate/formoterol	COPD
	Stiolto Respimat	tiotropium/olodaterol	COPD
	Duaklir Pressair	aclidinium/formoterol	COPD
Triple therapy (LAMA/LABA/ICS)	Trelegy Ellipta	umeclidinium/vilanterol/fluticasone furoate	Asthma, COPD
	Breztri Aerosphere	glycopyrrolate/formoterol/ budesonide	COPD

*Only Respimat device is approved for asthma

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Section 2
Determine which options are covered by the patient's insurance

Please see the most recent *BILH Inhaler Coverage Chart* for plan-specific coverage information

Insurance coverage tips for inhalers	
Tips	**Rationale**
Before submitting a prior authorization for a non-covered product, consider covered alternative options within the patient's plan	Prior authorizations can lead to higher costs for both patients and healthcare systems. They can also be time-consuming for office staff.
Instruct patients to contact their prescriber's office if the inhaler is not covered, the copayment is too high, or the inhaler is not available at the pharmacy.	Coverage information is subject to change and may vary based on the patient's individual plan. In order to find the inhaler that patients will most likely be able to successfully adhere to, they must be forthcoming when concerns arise. Letting them know about these potential issues in advance and advising them on how to proceed will help keep them engaged.
If unsure what a patient's insurance covers: • select the brand name but DO NOT write "No Substitution" • An alternative would be to select the generic name of the inhaler with a note to the pharmacy to dispense the product that is preferred by the patient's insurance	With the addition of generic inhalers to the market, these may automatically substitute at the pharmacy. Where some insurance plans still prefer brand-name products, pharmacies (in most cases) will dispense what is covered by the insurance based on alerts when processing the Rx.

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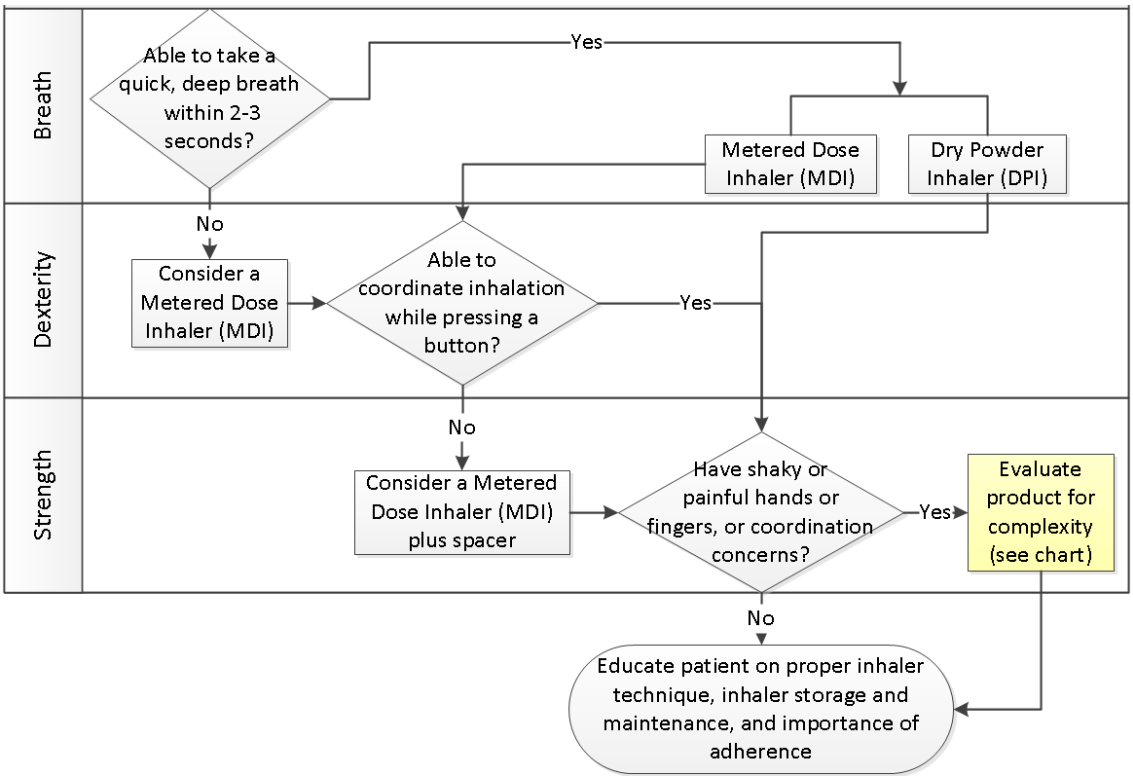
Section 3
Determine which inhaler device is most appropriate

Once a patient's options are narrowed down based on insurance coverage, inhaler selection may be further refined based on which inhaler device is easiest for patients to use. Considerations for determining which inhaler device is most appropriate comes down to three main areas: **Breath**, **Dexterity** and **Strength**



Inhaler Complexity						
DPI	• Activated by the patient's breath. Medication is delivered to the lungs with a quick, deep breath in. • Requires that the patient is able to take a deep, quick breath in within 2-3 seconds to ensure proper drug delivery. • Preferable in patients with coordination issues relative to metered dose inhalers.					
	Ellipta Respiclick Twisthaler	Diskus Inhub	Flexhaler Pressair[1]		Handihaler[1]	
Number of steps per dose	5	6	7	8	9	10+
MDI	Redihaler Respimat[1,2]	Aerosphere[1] HFA[1]				
	• Release medication upon pressing a button. The medication is propelled by the device itself, as opposed to being activated by the patient's breath. • Does not require the patient to take a deep, quick breath as with the DPIs. • Requires some level of coordination as the patient must take a breath in while also pressing the button to release the medication at the same time. • Can be used with a spacer for patients that cannot use a DPI and may struggle to coordinate the timing of medication delivery.					

[1]Potentially difficult for patients with weak, shaky, and/or painful hands, [2]Additional steps required prior to first use

Section 4
Choose the most appropriate dose based on desired potency (ICS and ICS/LABA inhalers only)

- The following charts can be used to decide on the appropriate ICS dose based on the desired potency. The dose comparisons are suggestions from the GINA 2020 Report and do not imply equivalence.
- Of note, the dosing in the ICS only inhaler chart is expressed as the total daily dose and may need to be divided into multiple doses per day.
- LABA doses do not change with higher doses of ICS when used in combination. Patients that are prescribed ICS/LABA combination inhalers that need a higher ICS dose should be given a new prescription. Patients should not double the dose of their current inhaler.

Inhaled corticosteroid (ICS) only dose comparison chart

Drug	Available strength (mcg)	Recommended frequency	Total daily ICS dose comparison (mcg)		
			Low	Medium	High
Alvesco HFA (ciclesonide)	80 160	BID	80-160	160-320	>320
ArmonAir Respiclick[1] (fluticasone)	55 113 232	BID	100-250	250-500	>500
Arnuity Ellipta (fluticasone furoate)	100 200	Daily	100		200
Asmanex HFA (mometasone)	100 200	BID	200-400		>400
Asmanex Twisthaler (mometasone)	110 220	Daily or BID	200		400
Flovent Diskus (fluticasone)	50 100 250	BID	100-250	250-500	>500
Flovent HFA (fluticasone)	44 110 220	BID	100-250	250-500	>500
Pulmicort Flexhaler (budesonide)	90 180	BID	200-400	400-800	>800
QVAR Redihaler (beclomethasone)	40 80	BID	100-200	200-400	>400

[1]Studies suggest that the Respiclick device is able to deliver medication more efficiently than other DPI devices. Lower doses of fluticasone delivered by this device have demonstrated non-inferiority relative to other DPIs.

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Inhaled corticosteroid/Long-acting beta agonist (ICS/LABA) dose comparison chart				
Drug	**Recommended directions**	**ICS/LABA inhaler strength (mcg)**		
		Low	**Medium**	**High**
Advair Diskus[1] (fluticasone/salmeterol)	1 puff BID	100/50	250/50	500/50[2]
Advair HFA[2] (fluticasone/salmeterol)	2 puffs BID	45/21	115/21	230/21
fluticasone/salmeterol MDPI[1,2,3] (generic AirDuo Respiclick)	1 puff BID	55/14	113/14	232/14
Breo Ellipta (fluticasone furoate/ vilanterol)	1 puff daily	100/25		200/25[2]
Dulera HFA[2] (mometasone/formoterol)	2 puffs BID	N/A	100/5	200/5
Symbicort HFA[1] (budesonide/formoterol)	2 puffs BID	80/4.5	160/4.5	N/A
Wixela Inhub[1] (fluticasone/salmeterol)	1 puff BID	100/50	250/50	500/50[2]

[1]Available generically, [2] Drug/dose not indicated for use in COPD, [3]Studies suggest that the Respiclick device is able to deliver medication more efficiently than other DPI devices. Lower doses of fluticasone delivered by this device have demonstrated non-inferiority relative to other DPIs.

Triple therapy (LAMA/LABA/ICS) dose comparison chart				
Drug	**Recommended directions**	**LAMA/LABA/ICS inhaler strength (mcg)**		
		Low	**Medium**	**High**
Trelegy Ellipta (umeclidinium/vilanterol/ fluticasone furoate)	1 puff daily	62.5/25/100		62.5/25/200[2]
Breztri Aerosphere[1] (glycopyrrolate/formoterol/ budesonide)	2 puffs BID	N/A	9/4.8/160	N/A

[1]Drug not indicated for use in asthma, [2]Dose not indicated for use in COPD

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Section 5
Educate regarding proper inhaler technique

Proper adherence and technique is vital for the success of a patient's asthma treatment and is often overlooked. There are many different devices available which all have caveats to their use that make it difficult for patients to even know whether they are using them correctly. Upon prescribing of a new inhaler for patients, a plan should always be put in place for how the patient will be taught how to use the device. Please refer to the ***BILH Inhaler Step-by-Step Instructions*** reference, and consider the following approaches:

1. If available, providers and/or support staff are encouraged to demonstrate inhaler technique in the office. Placebo-filled device samples for office use are available to be requested through manufacturers. See step-by-step inhaler device teaching document for instructions for each inhaler device.

2. Technologically savvy patients can search for inhaler demonstration videos available online.

3. Patients may request a consultation with their local pharmacist upon picking up the prescription. Many pharmacies have sample devices they may use to demonstrate technique. Patients may also request to take their first dose in view of the pharmacist to get real-time feedback.

4. Consider telehealth follow-up for review and observation of inhaler technique. This may allow for closer follow-up without the need for an in-person visit. If the patient and provider are able to use video calling, this may make observation more beneficial for the patient.

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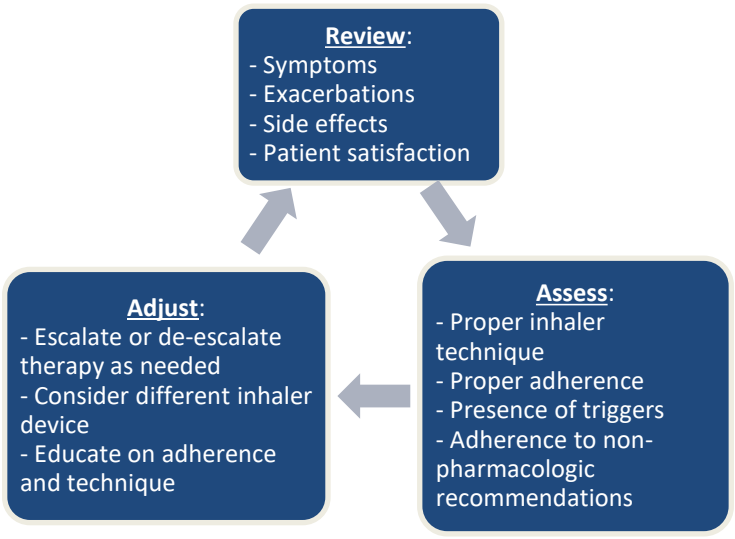
Section 6
Reassess for proper adherence, technique and response

Reassessment Cycle



- All patients with asthma and/or COPD should be consistently assessed and reassessed for proper response to treatment, inhaler technique, and adherence.
- Per the GINA 2022 Report, patients initiated on asthma inhaler therapy should be seen within 1-3 months after starting treatment and every 3-12 months thereafter. Response to stepping up in therapy should be reviewed after 2-3 months.
- Per the 2021 GOLD Report, patients should be seen within 4 weeks and again at 12-16 weeks following an exacerbation.

Reassessment Cycle		
	Items	**Action(s)**
Review	Symptom control Exacerbation history Lung function Side effects Patient satisfaction	Consider administering symptom questionnaire(s): - Asthma Control Test (ACT) or Asthma Control Questionnaire (ACQ) - COPD Assessment Test (CAT) or the Modified Medical Research Council (mMRC) Dyspnea Scale
		Administer pulmonary function tests (PFTs) as needed
		Assess exacerbation history, adverse effects, and patient satisfaction via chart review and patient interviewing
Assess	Proper inhaler technique Proper adherence (pharmacologic and non-pharmacologic) Presence of triggers	Ask patient to bring inhaler to the follow-up appointment to demonstrate proper technique
		Call pharmacy to assess patient's inhaler refill history in order to confirm proper adherence and to assess for overuse of rescue inhalers
		Review non-pharmacologic recommendations (i.e., smoking cessation, vaccinations, and pulmonary rehabilitation) as appropriate
Adjust	Escalate or de-escalate therapy as needed Consider different inhaler device or active ingredient Educate on adherence and technique	If symptomatic despite proper adherence and technique, consider stepping up therapy
		For patients managed with an ICS, consider stepping down therapy if good symptom control is maintained for at least 3 months. - To reduce risk of adverse effects (i.e., pneumonia) - Goal is to achieve minimum effective ICS dose - GINA does not recommend managing asthma patients with only short-acting beta agonists (i.e., albuterol) at this time
		Education on the importance of appropriate inhaler technique and adherence should be stressed with every follow-up

References:

1. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2022. Available from: www.ginasthma.org
2. GLOBAL STRATEGY FOR PREVENTION, DIAGNOSIS AND MANAGEMENT OF COPD: 2023 Report. Available from: https://goldcopd.org/2023-gold-report-2/

Tier coverage based on the following:

- BCBS: https://home.bluecrossma.com/medication/med-search
- HPHC: https://www.optumrx.com/content/dam/openenrollment/pdfs/hphc/hphc-2023/Premium-3-Tier.pdf
- Tufts: https://tuftshealthplan.com/member/employer-individual-or-family-plans/plans-benefits/pharmacy-benefit/pharmacy-formularies
- MassHealth: https://masshealthdruglist.ehs.state.ma.us/MHDL/pubdownloadpdfcurrent.do?id=45

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Approval Dates:

BILH Ambulatory P&T Subcommittee: March 2021
BILH System P&T: April 2021