

# Asthma Therapy: Quick Reference Guide

## What is Asthma?<sup>1</sup>

Asthma is a heterogeneous condition characterized by chronic airway inflammation and bronchial constriction that results in respiratory symptoms (wheezing, shortness of breath, chest tightness, and cough). Symptoms and breathing limitations can vary in intensity and change over time.

## Non-Pharmacological Asthma Interventions<sup>1,2</sup>

Trigger management  
Smoking/vaping cessation  
Breathing exercises  
Pulmonary rehabilitation  
Regular physical activity  
Healthy diet and weight

## The Importance of Inhaler Use and Adherence<sup>1,3</sup>

Asthma affects at least 8% of adults and 6% of children in Illinois. The 2024 Global Initiative for Asthma (GINA) guidelines recommend use of an inhaled corticosteroid (ICS) as a first-line maintenance therapy and an ICS-containing anti-inflammatory reliever (AIR). Poor adherence to first-line therapy and uncontrolled asthma increase risk for asthma attacks, decline of lung function, ER visits, hospitalizations, and death.

To improve quality of life, it is important to educate regarding

- correct inhaler technique
- proper asthma symptom management, and
- exacerbation risk reduction.

## Barriers to Inhaler Adherence<sup>1</sup>

Insurance and cost  
Poor health literacy  
Desire for immediate relief  
Fear of steroid side effects  
Limited patient education  
Unaware of inhaler types  
Poor inhaler technique  
Perceived lack of effect

Asthma <sup>1</sup>	COPD <sup>1</sup>
Intensity and frequency of symptoms vary over time	Persistent symptoms progress over time
Cough, non-productive	Cough, productive
First Line: Inhaled corticosteroid	First Line: Long-acting inhaled bronchodilator

## Assessment of Persistent Asthma<sup>1</sup>

Symptom control and future risk of adverse outcomes based in part on lung function should always be assessed. Also assess treatment issues and comorbidities that can contribute to symptoms and poor life quality.

Assess if the patient has any of the following in past 4 weeks:	Well controlled	Partly controlled	Uncontrolled
<ul style="list-style-type: none"> <li>- Daytime symptoms more than 2 times per week</li> <li>- Nighttime awakening due to asthma</li> <li>- Activity limitation due to asthma</li> <li>- Short-acting beta<sub>2</sub>-agonist (SABA) reliever use more than 2 times per week or assess average frequency of as-needed AIR.</li> </ul>	None of these	1-2 of these	3-4 of these
Determine <b>asthma severity</b> by the level of treatment needed to control symptoms or exacerbations ("difficulty to treat").			
Mild	Moderate	Severe	
Well-controlled with low-intensity treatment, i.e., as needed low-dose ICS-formoterol or low-dose ICS + as needed SABA.	Well-controlled with Step 3 or 4 therapy, i.e., low- or medium-dose ICS-long-acting beta <sub>2</sub> -agonist (LABA).	Requires 1) high-dose ICS/LABA or biologics or 2) uncontrolled asthma despite optimal high-dose ICS/LABA treatment.	

## Initiation of Therapy<sup>1</sup>

Symptoms ≤1-2 days/week	Symptoms 3-5 days/week	Symptoms ≥4-5 days/week or ≥1 nighttime awakening/week	Daily symptoms or >1 nighttime awakening/week
Initiate Step 1	Initiate Step 2	Initiate Step 3	Initiate Step 4

## Stepwise Persistent Asthma Treatment Approach<sup>1</sup>

Adults and Adolescents 12 years and older

### Track 1: Preferred

	Step 1-2	Step 3 <sup>1,2</sup>	Step 4 <sup>1,2</sup>	Step 5*
<b>Maintenance</b>	Low-dose ICS-formoterol as needed	Low-dose ICS-formoterol MART	Medium-dose ICS-formoterol MART	Add-on LAMA, use high-dose ICS-formoterol, biologics
<b>Reliever</b>	Low-dose ICS-formoterol as needed			

### Track 2: Alternative

	Step 1	Step 2	Step 3	Step 4	Step 5*
<b>Maintenance</b>	Low-dose ICS when SABA used	Low-dose ICS	Low-dose ICS-LABA	Medium/high-dose ICS-LABA	Add-on LAMA, use high-dose ICS-LABA, biologics
<b>Reliever</b>	ICS-SABA or SABA as needed				

## Exercise-induced Bronchospasm (EIB)

Decrease EIB with maintenance ICS. Additionally, before exercise may use SABA, low-dose ICS-formoterol, or ICS-SABA.

\*Refer to specialist for add-on treatment. LABA: Long-Acting Beta<sub>2</sub>-Agonist; LAMA = Long-Acting Muscarinic Antagonist; MART = maintenance and reliever therapy.

### Role of Montelukast in Asthma Therapy<sup>1,4</sup>

For adults and adolescents, leukotriene receptor antagonists (i.e., montelukast) are less effective than ICS but can be added during Step 1-2. They can be added during Step 4 for children aged 6-11 years if not tried previously.

Before prescribing montelukast, consider the potential risk of neuropsychiatric adverse events, e.g., new onset nightmares, behavioral problems, or suicidal ideation. Communicate risks to the patient and caregivers. Stop montelukast if neuropsychiatric symptoms occur.

### Treatments Not Recommended<sup>1</sup>

- **Treatment with oral bronchodilators, such as theophylline or oral SABA:** increased risk of side effects and lack of data
- **Anticholinergic agents (muscarinic antagonists) in the absence of ICS:** short-acting agents have slower onset than SABA and long-acting agents show increased risk of severe exacerbations
- **SABA or formoterol monotherapy (without ICS):** increased risk of severe exacerbations

## Monitoring and Managing Asthma<sup>1</sup>

<b>Initial Visit</b>	<ul style="list-style-type: none"> <li>Assess symptoms, severity, risk factors, comorbidities, lung function, and initiate treatment/risk management</li> <li>Instruct on proper technique of inhaler and spacer</li> </ul>	Provide Asthma Action Plan
<b>Follow-Up Visits</b>	<ul style="list-style-type: none"> <li>Assess symptom control, exacerbations, side effects, adherence, and inhaler technique via patient demonstration (with or without spacer device/mask)</li> <li>Review/update <b>Asthma Action Plan</b> at each visit</li> <li>Step down if controlled on regimen for 3 months</li> <li>Measure spirometry 3-6 months after initiation of ICS-containing therapy and then every 1-2 years or more often in high-risk patients or severe asthma</li> </ul>	<b>Frequency of Patient Follow-up</b> <ul style="list-style-type: none"> <li>After initiation: 2-3 months (or sooner)</li> <li>After step down: 2-4 weeks</li> <li>After exacerbation: 1-2 days for children and within 2-7 days for adults; then next visit in 1-2 months</li> </ul>

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