

# CM'S STEPWISE APPROACH FOR MANAGING ASTHMA LONG TERM (EPR4 and GINA 2023)

The stepwise approach tailors the selection of medication to the level of asthma severity or asthma control. This table combines recommendations from EPR4 (2020) and GINA 2023. If the recommendations differ by guideline, then the source is listed in the table. ICS/LABA means all combination controller therapies using long acting beta-agonists including those made with formoterol or salmeterol. ICS/formoterol references only combination controller therapies with formoterol (e.g. Dulera, Symbicort, or generic alternatives). Low, medium, and high-dose medication recommendations (including maximum daily dosing) are included on a separate table. The stepwise approach is meant to help (not replace) the clinical decision making needed to meet individual patient needs for management of outpatient asthma. Multiple options presented in the same row are equivalent to each other. LTRA means all leukotriene receptor antagonist (ex. Montelukast).<sup>#</sup>

		STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
<b>At each step:</b> Patient education, review medication technique, assess environmental control, and manage of comorbidities. <b>Step Down</b> if asthma is well controlled for at least 3 months. <b>Step Up</b> if asthma is not well controlled or no clear benefit in 4-6 weeks despite adherence and good medication technique.							
<b>Quick Relief or Reliever Therapies:</b> <ul style="list-style-type: none"> <li>• For regimens using PRN SABA, albuterol may be used every 4-6 hours needed for symptoms. The intensity of treatment depends on severity of symptoms. In acute respiratory distress, up to 3 treatments every 20 minutes for up to 1 hour may be used.</li> <li>• For regimens using PRN ICS/formoterol, ICS/formoterol may be used as a reliever therapy of 1-2 puffs up to maximum 8 puffs/day in children 4-11years or maximum 12 puffs/day for 12 years and up.</li> <li>• For regimens using PRN SABA and low dose ICS when SABA is used, ICS should be given anytime albuterol is given (a.k.a. concomitant plan).</li> <li>• <b>Caution:</b> Increasing use of SABA or use &gt;2 days/week for symptom relief (not to prevent exercise induced bronchospasm) generally indicates inadequate control and the need to step up treatment.</li> </ul>							
0-4 years old		<b>Intermittent asthma</b>	<b>Persistent Asthma: Daily Medication</b> <i>Consult with an asthma specialist if Step 3 care or higher is required. Consider consultation in step 2.</i>				
	Preferred Treatment (choose 1)	PRN SABA At start of URI, consider adding short course of ICS	low-dose ICS + PRN SABA	medium-dose ICS + PRN SABA	medium-dose ICS/LABA + PRN SABA	high-dose ICS/LABA + PRN SABA	high-dose ICS/LABA + daily oral corticosteroids + PRN SABA
	Alternative Treatment*		LTRA <sup>#</sup> + PRN SABA	low-dose ICS/LABA + PRN SABA	medium-dose ICS + LTRA <sup>#</sup> + PRN SABA	high-dose ICS + LTRA <sup>#</sup> + PRN SABA	high-dose ICS+LTRA <sup>#</sup> +daily oral corticosteroids +PRN SABA
If clear benefit is not observed in 4–6 weeks and medication technique and adherence are satisfactory, consider adjusting therapy or alternate diagnoses.							
5-11 years old		<b>Intermittent asthma</b>	<b>Persistent Asthma: Daily Medication</b> <i>Consult with an asthma specialist if step 4 care or higher is required. Consider consultation in step 3.</i>				
	Preferred Treatment (choose 1)	PRN SABA or PRN SABA and low dose ICS when SABA is used	low-dose ICS + PRN SABA	low-dose ICS/formoterol + PRN ICS/formoterol	medium-dose ICS/formoterol + PRN ICS/formoterol	high-dose ICS/LABA + PRN SABA	high-dose ICS/LABA + daily oral corticosteroids + PRN SABA
	Alternative Treatment*		LTRA + PRN SABA <b>OR</b> PRN SABA +low-dose ICS if SABA is used	low-dose ICS/LABA + PRN SABA <b>OR</b> medium-dose ICS + PRN SABA	med-dose ICS/LABA + PRN SABA <b>OR</b> med-dose ICS + LTRA <sup>#</sup> + PRN SABA	high-dose ICS/LABA + PRN SABA +LTRA or LAMA	high-dose ICS/LABA +LTRA <sup>#</sup> or LAMA +daily oral corticosteroids +PRN SABA
						Consider subcutaneous allergen immunotherapy for patients who have persistent, allergic asthma.**	Consider type 2 inflammation biologic for patients that have allergies
12+ years old		<b>Intermittent asthma</b>	<b>Persistent Asthma: Daily Medication</b> <i>Consult with an asthma specialist if step 4 care or higher is required. Consider consultation in step 3.</i>				
	Preferred Treatment (choose 1)	PRN low-dose ICS/formoterol <b>OR</b> PRN SABA +low-dose ICS when SABA is used	<i>EPR4:</i> low-dose ICS + PRN SABA <b>OR</b> PRN SABA +low-dose ICS if SABA is used <i>OR GINA2023:</i> PRN low-dose ICS/formoterol	low-dose ICS/formoterol + PRN ICS/formoterol	medium-dose ICS/formoterol + PRN ICS/formoterol	medium-high dose ICS/LABA + LAMA + PRN SABA	high-dose ICS/LABA +oral corticosteroid <sup>§§</sup>
	Alternative Treatment*		<i>EPR4:</i> LTRA + PRN SABA <b>OR GINA 2023:</b> PRN SABA +low-dose ICS if SABA is used	low-dose combo (ICS/LABA, ICS/LAMA or ICS/LTRA <sup>#</sup> ) + PRN SABA <b>OR</b> medium-dose ICS + PRN SABA	medium-dose combo (ICS/LABA, ICS/LAMA) + PRN SABA <b>OR</b> High-dose ICS/LABA +PRN SABA	high-dose ICS/LABA + PRN SABA <b>OR</b> High-dose ICS/LTRA <sup>#</sup> + PRN SABA	high-dose ICS/LABA + PRN SABA + LTRA <sup>#</sup> or LAMA
						Consider subcutaneous allergen immunotherapy for patients who have persistent, allergic asthma.**	Consider type 2 inflammation biologic for patients that have allergies

Abbreviations: EIB, exercise-induced bronchospasm; ICS, inhaled corticosteroid; LABA, inhaled long-acting beta -agonist; LTRA, leukotriene receptor antagonist; SABA, inhaled short-acting beta -agonist.

\*If alternative treatment is used and response is inadequate, discontinue and use preferred treatment before stepping up.

\*\* Based on evidence for dust mites, animal dander, and pollen; evidence is weak or lacking for molds and cockroaches. Evidence is strongest for immunotherapy with single allergens.

The role of allergy in asthma is greater in children than in adults.

‡‡ Zileuton is less desirable than montelukast because of limited studies as adjunctive therapy and the need to monitor liver function. Montelukast has an FDA warning for behavioral side and psych side effects. Other LTRA is zafirlukast. Zileuton is a leukotriene inhibitor.

§§ Before oral corticosteroids are introduced, a trial of high-dose ICS + LABA + either LTRA, theophylline, or zileuton, may be considered, although this approach has not been studied in clinical trials.

UPDATED 12/2023 by Kylie Smith, Maddie Buchanan and Jade Tam-Williams

