

Appendix C:

Pediatric Asthma Severity and Control Ages 12+ years

Patients aged 12 years and older

To classify asthma severity in patients **not on medications**, see Table 5a.

To assess asthma control in patients **already on medications**, see Table 5b.

Table 5a. Patients aged 12 years and older not on medications: classifying asthma severity
Assess each component over the last 2–4 weeks. The result is based on the score of the most severe component.

Impairment	Intermittent asthma	Persistent asthma		
		Mild	Moderate	Severe
Symptoms	Up to 2 days/week	More than 2 days/week	Daily	Throughout the day
Nighttime awakenings	Up to 2x/month	3–4x/month	More than 1x/week but not nightly	Often 7x/week
Short-acting beta ₂ agonist use (for rescue, not exercise prophylaxis)	Up to 2 days/week	More than 2 days/week but not more than 1x/day	Daily	Several times a day
Interference with normal activity	None	Minor limitation	Some limitation	Extreme limitation
Lung function: FEV ₁ predicted or personal best	Normal between exacerbations; greater than 80%	Greater than 80%	60–80%	Less than 60%
FEV ₁ /FVC ¹	Normal	Normal	Reduced 0.05	Reduced more than 0.05
Risk Exacerbations requiring systemic corticosteroids	Up to 1x/year	At least 2x/year ²	At least 2x/year ²	At least 2x/year ²
Therapy recommendation See 12+ Year Stepwise Chart, pp. 16–17.	Initiate therapy at Step 1 .	Initiate therapy at Step 2 .	Initiate therapy at Step 3 . Consider short course of systemic corticosteroids.	Initiate therapy at Step 4 or 5 . Consider short course of systemic corticosteroids.
¹ Normal FEV ₁ /FVC by age group: 8–19 years = 0.85 20–39 years = 0.80 40–59 years = 0.75 60–80 years = 0.70 ² Patients with 2 or more exacerbations may be considered the same as patients who have persistent asthma, even in the absence of impairment consistent with persistent asthma.				

Table 5b. Patients aged 12 years and older *currently taking* medications: assessing asthma control
 Assess each component over the last 2–4 weeks. The result is based on the score of the most severe component.

Impairment	Asthma is:		
	<i>Well controlled</i>	<i>Not well controlled</i>	<i>Very poorly controlled</i>
Symptoms	Up to 2 days/week	More than 2 days/week	Throughout the day
Nighttime awakenings	Up to 2x/month	1–3x/week	At least 4x/week
Short-acting beta ₂ agonist use (for rescue, not exercise prophylaxis)	Up to 2 days/week	More than 2 days/week	Several times a day
Interference with normal activity	None	Some limitation	Extreme limitation
Lung function (FEV ₁ predicted or personal best)	Greater than 80%	60–80%	Less than 60%
Questionnaire ACT score	20 or higher	16–19	15 or lower
Risk Exacerbations requiring systemic corticosteroids	Up to 1x/year	At least 2x/year	At least 2x/year ²
Therapy recommendation See 12+ Year Stepwise Chart, pp. 16–17.	Maintain current step. If well controlled for at least 3 months, consider step down.	Step up at least 1 step. ¹	Step up 1–2 steps. ¹ Consider short course of systemic corticosteroids.
Follow-up	Every 1–6 months	2–6 weeks	2 weeks

¹ Before stepping up therapy, review adherence to medication, inhaler technique, and environmental control.

Pharmacologic Options: Stepwise Approach to Long-term Asthma Management in Patients Aged 12 Years and Older

For notes to this chart, including note about pregnancy and abbreviations used, see following page.

INTERMITTENT Symptoms	PERSISTENT Symptoms					
	Step 1	Step 2	Step 3	Step 4	Step 5 Refer to asthma specialist	Step 6 Refer to asthma specialist
Quick-relief medication (as needed)	<p>SABA Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn</p>	<p>SABA Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn</p>	<p>SABA Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn</p>	<p>SABA Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn</p>	<p>SABA Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn</p>	<p>SABA Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn</p>
	<p>Long-term control medication – PREFERRED¹</p> <p>Low-dose ICS <i>1st line</i> (QVAR) HFA/MDI w/spacer 40–120 mcg twice daily <i>2nd line</i> Mometasone (Asmanex) Twisthaler (PA) 220 mcg once daily</p>	<p>Low-dose ICS/LABA <i>1st line</i> Beclomethasone (QVAR) HFA/MDI w/spacer 40–120 mcg twice daily <i>2nd line</i> Mometasone (Asmanex) Twisthaler (PA) 220 mcg once daily</p>	<p>Medium-dose ICS <i>1st line</i> Beclomethasone (QVAR) HFA/MDI w/spacer 120–240 mcg twice daily <i>2nd line</i> Mometasone (Asmanex) Twisthaler (PA) 440 mcg once daily</p>	<p>Medium-dose ICS/LABA: Mometasone/formoterol (Dulera) 100 mcg/5 mcg per inhalation, 2 puffs twice daily (PA: criteria include not well controlled on medium-dose ICS)</p>	<p>High-dose ICS/LABA: Mometasone/formoterol (Dulera) 200 mcg/5 mcg per inhalation, 2 puffs twice daily (PA: criteria include not well controlled on medium-dose ICS)</p>	<p>High-dose ICS/LABA: Mometasone/formoterol (Dulera) 200 mcg/5 mcg per inhalation, 2 puffs twice daily (PA: criteria include not well controlled on medium-dose ICS) and Oral systemic corticosteroid Prednisone "burst": 40–60 mg/day as single or 2 divided doses for 3–10 days</p>
	<p>Long-term control medication – ALTERNATIVE^{2,3}</p> <p>LTRA Montelukast (Singulair) tablet (PA) Age 12–14 years: 5 mg daily at bedtime Age 15 years and older: 10 mg daily at bedtime</p>	<p>Low-dose ICS/LABA Fluticasone/salmeterol (Advair Diskus) 100 mcg/50 mcg twice daily, 12 hours apart (PA) or Low-dose ICS <i>1st line</i> Beclomethasone (QVAR) HFA/MDI w/spacer 40–120 mcg twice daily <i>2nd line</i> Mometasone (Asmanex) Twisthaler (PA) 220 mcg once daily and LTRA Montelukast (Singulair) tablet (PA) Age 12–14 years: 5 mg daily at bedtime Age 15 years and older: 10 mg daily at bedtime</p>	<p>Medium-dose ICS <i>1st line</i> Beclomethasone (QVAR) HFA/MDI w/spacer 120–240 mcg twice daily <i>2nd line</i> Mometasone (Asmanex) Twisthaler (PA) 440 mcg once daily and LTRA Montelukast (Singulair) tablet (PA) Age 12–14 years: 5 mg daily at bedtime Age 15 years and older: 10 mg daily at bedtime</p>	<p>Medium-dose ICS <i>1st line</i> Beclomethasone (QVAR) HFA/MDI w/spacer 120–240 mcg twice daily <i>2nd line</i> Mometasone (Asmanex) Twisthaler (PA) 440 mcg once daily and LTRA Montelukast (Singulair) tablet (PA) Age 12–14 years: 5 mg daily at bedtime Age 15 years and older: 10 mg daily at bedtime</p>	<p>High-dose ICS/LABA: Mometasone/formoterol (Dulera) 200 mcg/5 mcg per inhalation, 2 puffs twice daily (PA: criteria include not well controlled on medium-dose ICS)</p>	<p>High-dose ICS/LABA: Mometasone/formoterol (Dulera) 200 mcg/5 mcg per inhalation, 2 puffs twice daily (PA: criteria include not well controlled on medium-dose ICS) and Oral systemic corticosteroid Prednisone "burst": 40–60 mg/day as single or 2 divided doses for 3–10 days</p>

NOTES to Stepwise Approach, Patients Aged 12 Years and Older

Abbreviations

SABA	short-acting beta ₂ agonist
ICS	inhaled corticosteroid
LABA	long-acting beta ₂ agonist
LTRA	leukotriene receptor antagonist
PA	prior authorization required
DPI	dry powder inhaler
MDI	metered-dose inhaler
HFA	hydrofluoroalkane

Notes

1 Pregnancy

Inhaled corticosteroids (ICS) are the preferred medication for long-term asthma control in pregnancy. Budesonide (class B) is the preferred ICS because more data are available on using budesonide in pregnant women than are available on other ICS, and the data are reassuring.

2 Leukotriene receptor antagonist (montelukast):

- Not covered for allergic rhinitis, sinusitis or atopic dermatitis
- Prior Authorization criteria:
 1. Patients aged 12 months or over who have asthma and are unable to use inhaled corticosteroids because of medical contraindications or inability to manipulate the inhaler. In these patients, a clinical response to montelukast must be documented for continued coverage. Rationale: montelukast is less effective than inhaled corticosteroids.
 2. For children under 12 years of age with asthma who are able to use inhaled corticosteroids, but not controlled on medium-dose inhaled corticosteroid monotherapy, montelukast can be added to inhaled corticosteroid treatment.
 3. For treatment of exercise-induced bronchospasm for athletes and children who do not have indications for inhaled corticosteroids and fail albuterol because they are active for a substantial part of the day or because the time of their activity is not predictable.
 4. For individuals who have history of systemic (anaphylactic) reaction to allergy immunotherapy, and poor response to at least one antihistamine pre-treatment (i.e., diphenhydramine, loratadine, fexofenadine, cetirizine), montelukast can be added to antihistamine pre-treatment.

3 Other alternatives

Theophylline:

- Starting dose: 10 mg/kg/day up to 300 mg/day
- Usual maximum dose: 800 mg/day

Tiotropium: While effective for patients with COPD, is not recommended for the management of asthma

Omalizumab (Xolair): Patients on this medication, if they meet the pre-service approval criteria for office-administered injectables, are managed by Allergy and Pulmonary.