Appendix B:

Pediatric Asthma Severity and Control
Ages 5-11 years

Patients aged 5–11 years

To classify asthma severity in patients **not on medications,** see Table 4a.
To assess asthma control in patients **already on medications,** see Table 4b.

Table 4a. Patients aged 5–11 years *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	Daily	Several times a day
Interference with normal activity	None	Minor limitation	Some limitation	Extreme limitation
Lung function: FEV_1 predicted	Normal between exacerbations; greater than 80%	Greater than 80%	60–80%	Less than 60%
FEV_1 /FVC [1]	Greater than 0.85	Greater than 0.80	0.75–0.80	Less than 0.75
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 5–11 Year Stepwise Chart, pp. 14–15.	Initiate therapy at **Step 1.**	Initiate therapy at **Step 2.**	Initiate therapy at **Step 3,** medium-dose inhaled corticosteroid option. **Consider** short course of **systemic corticosteroids.**	Initiate therapy at *either* **Step 3,** medium-dose inhaled corticosteroid option, *or* at **Step 4.** **Consider** short course of **systemic corticosteroids.**

1 Relevant annual risk may be related to FEV_1.
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 4b. Patients aged 5–11 years *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.

	Asthma is:		
Impairment	***Well controlled***	***Not well controlled***	***Very poorly controlled***
Symptoms	Up to 2 days/week	More than 2 days/week or multiple times on up to 2 days/week	Throughout the day
Nighttime awakenings	Up to 1x/month	At least 2x/month	At least 2x/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	Greater than 80%	60–80%	Less than 60%
FEV_1 /FVC	Greater than 0.80	0.75–0.80	Less than 0.75
Questionnaire Childhood ACT score	20 or higher	13–19	12 or lower
Risk Exacerbations requiring systemic corticosteroids	0–1x/year	2–3x/year	More than 3x/year
Therapy recommendation See 5–11 Year Stepwise Chart, pp. 14–15.	**Maintain** therapy at 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 5–11 Years

For notes to this chart, including 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)					
SABA Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn	**SABA** Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn	**SABA** Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn	**SABA** Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn	**SABA** Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn	**SABA** Albuterol HFA w/spacer 90 mcg/puff 2 puffs every 4–6 hours prn
	Long-term control medication–PREFERRED				
	Low-dose ICS *1st line* Fluticasone (Flovent) HFA/MDI w/spacer 44–88 mcg twice daily *2nd line* Beclomethasone (QVAR) HFA/MDI w/spacer 40–80 mcg twice daily	**Medium-dose ICS** *1st line* Fluticasone (Flovent) HFA/MDI w/spacer 88–176 mcg twice daily *2nd line* Beclomethasone (QVAR) HFA/MDI w/spacer 80–160 mcg twice daily	**Medium-dose ICS/LABA:** Fluticasone/salmeterol (Advair Diskus) DPI 100 mcg/50 mcg twice daily, 12 hours apart (PA: criteria include not well controlled on medium-dose ICS)	**High-dose ICS/LABA:** Fluticasone/salmeterol (Advair Diskus) DPI 250 mcg/50 mcg – 500 mcg/50 mcg twice daily, 12 hours apart (PA: criteria include not well controlled on medium-dose ICS)	**High-dose ICS/LABA:** Fluticasone/salmeterol (Advair Diskus) DPI 250 mcg/50 mcg – 500 mcg/50 mcg twice daily, 12 hours apart (PA: criteria include not well controlled on medium-dose ICS) ***and* Oral systemic corticosteroid** Prednisone "burst": 1–2 mg/kg/day. Maximum 60 mg/day for 3–10 days
	Long-term control medication–ALTERNATIVE [1, 2]				
	LTRA Montelukast (Singulair) tablet (PA) Age 5 years: 4 mg daily at bedtime Age 6–11 years: 5 mg daily at bedtime	**Low-dose ICS** *1st line* Fluticasone (Flovent) HFA/MDI w/spacer 44–88 mcg twice daily *2nd line* Beclomethasone (QVAR) HFA/MDI w/spacer 40–80 mcg twice daily ***and*** ***either* LABA** Salmeterol (Serevent) DPI (PA) 50 mcg every 12 hours ***or* LTRA** Montelukast (Singulair) tablet (PA) Age 5 years: 4 mg daily at bedtime Age 6–11 years: 5 mg daily at bedtime	**Medium-dose ICS** *1st line* Fluticasone (Flovent) HFA/MDI w/spacer 88–176 mcg twice daily *2nd line* Beclomethasone (QVAR) HFA/MDI w/spacer 80–160 mcg twice daily ***and* LTRA** Montelukast (Singulair) tablet (PA) Age 5 years: 4 mg daily at bedtime Age 6–11 years: 5 mg daily at bedtime		

NOTES to Stepwise Approach, Patients Aged 5–11 Years

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 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.

2 Other alternatives

Theophylline:

- Starting dose: 10 mg/kg/day up to 300 mg/day
- Usual maximum dose: 16 mg/kg/day up to 600 mg/day