MaineHealth

Asthma Clinical Guidelines 6-11 Years

Adapted from the Global Initiative for Asthma (GINA) 2018 Guidelines for the Diagnosis and Management of Asthma and the National Heart, Lung, and Blood Institutes's (NHLBI) National Asthma Education and Prevention Program (NAEPP) 2007 Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma

INITIAL ASSESSMENT

Symptoms	Medical History	Comorbidities
• Recurrent wheezing • Coughing • Chest tightness • Expiratory airflow limitations • Dyspnea	• Pneumonia • Atopic dermatitis (eczema) • Allergies • Premature Birth • Recurrent bronchitis • Allergic rhinitis • Family history of asthma or allergy	• Rhinitis • Sinusitis • GERD • Obesity • OSA • Depression and anxiety

Risk factors that may exacerbate symptoms		Red flags
• Exercise • Recurrent Respiratory Tract Infections • Allergen exposure/sensitization • Changes in weather • Environmental Tobacco/Marijuana Smoke • Irritants (woodsmoke, airborne chemicals, strong smells)	• Stress • Menstrual cycles • Nocturnal symptoms • Strong emotional expressions	• History of steroid use • ED visits • Hospitalization

Differential diagnosis	Features that decrease probability that respiratory symptoms are due to asthma
• Chronic upper airway cough syndrome • Inhaled foreign body • Bronchiectasis • Primary ciliary dyskinesia • Congenital heart disease • Cystic fibrosis • Vocal cord dysfunction • Tuberculosis	• Chronic sputum production • Dyspnea associated with dizziness, light headedness or peripheral tingling • Chest pain • Exercise-induced dyspnea with noisy inspiration

Diagnostics, Classification and Symptom Control Assessment 6-11 years

DIAGNOSTICS

Spirometry	Recommended Additional Testing
• Performed at diagnosis or start of treatment, after 3-6 months of controller treatment to assess the patient's personal best FEV_1, every 1-2 years, more frequently in at risk patients. • Lung function does not correlate strongly with asthma symptoms in adults and children; **a low FEV_1 is a strong independent predictor of risk of exacerbations, even after adjustment for symptom frequency.**	• Pulse Oximetry • CXR • Consider allergy testing

SEVERITY CLASSIFICATION

Components of Severity*		Intermittent	Persistent		
			Mild	Moderate	Severe
Impairment	Daytime symptoms	≤2 days/week	>2 days/week but not daily	Daily	Throughout the day
	Nighttime awakenings	<2x/month	3-4x/month	>1x/week	7x/week
	SABA[1] use for symptom control[2]	≤2 days/week	>2 days/week but not daily	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
	Lung function	Normal FEV_1 between exacerbations FEV_1>80% predicted FEV_1/FVC>85%	FEV_1>80% FEV_1/FVC>80%	FEV_1=60-80% FEV_1/FVC=75-80%	FEV_1<60% FEV_1/FVC<75%
Risk	Exacerbations requiring oral corticosteroids	0-1/yr	≥2 exacerbations in 1 year requiring oral corticosteroids †		

* Level of severity is determined by both impairment and risk. Assess impairment domain by patient's/caregiver's recall of the previous 2-4 weeks and spirometry (if ≥5yrs of age). Severity may be assigned to the most severe category in which any feature occurs.

† At present, there are inadequate data to correspond frequency of exacerbations with different levels of asthma severity. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, patients ≥5yrs of age who had ≥2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

1 Short-acting inhaled $beta_2$-agonist.

2 Does not include SABA for prevention of exercise-induced bronchospasm.

Asthma Symptom Control Assessment			Level of Asthma Symptom Control		
In the past 4 weeks, has the child had:	**Yes**	**No**	**Well controlled**	**Partly controlled**	**Uncontrolled**
Daytime asthma symptoms for more than a few minutes, more than twice a week?			None of these	1-2 of these	3 or more
Any activity limitation due to asthma? (Runs/plays less than other children, tires easily during walks/playing?)					
Reliever medication needed* more than twice a week?					
Any night waking or night coughing due to asthma?					
Have you been to a quick care or ED for your asthma since your last visit?					
Have you been prescribed an oral corticosteroid (OCS) for your asthma since your last visit?					

Adapted from the Global Initiative for Asthma (GINA) 2018 Guidelines

* Excludes reliever taken before exercise

STEPWISE APPROACH TO MANAGEMENT 6-11 YEARS

	Step 1	Step 2	Step 3	Step 4	Step 5
Preferred Controller		Low dose ICS	**Consider Consult with an Asthma Specialist** Medium dose ICS	**Refer to an Asthma Specialist** Medium/high ICS + LABA	**Refer to an Asthma Specialist** Add-on treatment: anti-IgE High ICS + LABA
Other Controller Options		LTRA	LTRA	Low dose ICS +	High dose ICS
Reliever	As needed short-acting beta$_2$-agonist (SABA)				
Severity Classification*	**Intermittent**	**Mild Persistent**	**Moderate Persistent**	**Moderate to Severe Persistent**	**Severe Persistent**

KEY:

SABA – short-acting beta$_2$ agonist	LTRA – leukotriene receptor antagonist
LABA – long-acting beta$_2$ agonist	ICS – inhaled corticosteriod

*Asthma severity is assessed retrospectively from the level of treatment required to control symptoms and exacerbations. It can be assessed once the patient has been on controller treatment for several months and, if appropriate, treatment stepdown has been attempted to find the patient's minimum effective level of treatment. Asthma severity is not a static feature and may change over months or years.

MANAGEMENT

Assess symptom control over last 4 weeks- System Control Assessment

Tobacco treatment referral for parents/caregivers if patient exposed to environmental tobacco smoke

Influenza vaccine

Allergen avoidance

Pneumococcal vaccine

Set goals for managing asthma and medications

Assess and treat comorbidities

Self-management education

- Written asthma action plan
- Inhaler education with teach back*
- Assess adherence

Annual visits

* "Inhaler competence in asthma: Common errors, barriers to use and recommended solutions." Respiratory Medicine. October 23, 2012 https://www.sciencedirect.com/science/article/pii/S0954611112003587

Corticosteroids 6-11 years

DAILY DOSES OF INHALED CORTICOSTEROIDS

Brand name	Corticosteroid	Low	Medium	High
Asmanex Twisthaler*	Mometasone furoate (DPI)	110 mcg 1 puff once daily	220 mcg 1 puff once daily	220 mcg 2 puffs once daily
Arnuity Ellipta	Fluticasone furoate (DPI)	100 mcg 1 puff once daily	200 mcg 1 puff once daily	200 mcg 1 puff twice daily
Flovent	Fluticasone propionate (DPI)	50 mcg 1 puff twice daily	100 mcg 1 puff twice daily	250 mcg 1 puff twice daily
Flovent	Fluticasone propionate (HFA)	44 mcg 2 puffs twice daily	110 mcg 2 puffs twice daily	220 mcg 2 puffs twice daily
Pulmicort	Budesonide (DPI)	90 mcg 1 puff twice daily	180 mcg 1 puff twice daily	180 mcg 2 puffs twice daily
Pulmicort	Budesonide (respules)	0.25 mg twice daily or 0.5 mg once daily	0.5 mg twice daily	1 mg twice daily
QVAR	Beclomethasone dipropionate (HFA)	40 mcg 2 puffs twice daily	80 mcg 2 puffs twice daily	80 mcg 4 puffs twice daily

* Please consider development stage when prescribing for pediatric patients
Consider use of aerochamber with medium mask through age 10.

For more information, contact MaineHealth Pediatric Service Line Program Manager at 207-662-2439