



# An Asthma Update for Nurses

**Montana Nurses Association**  
**October 6, 2022**

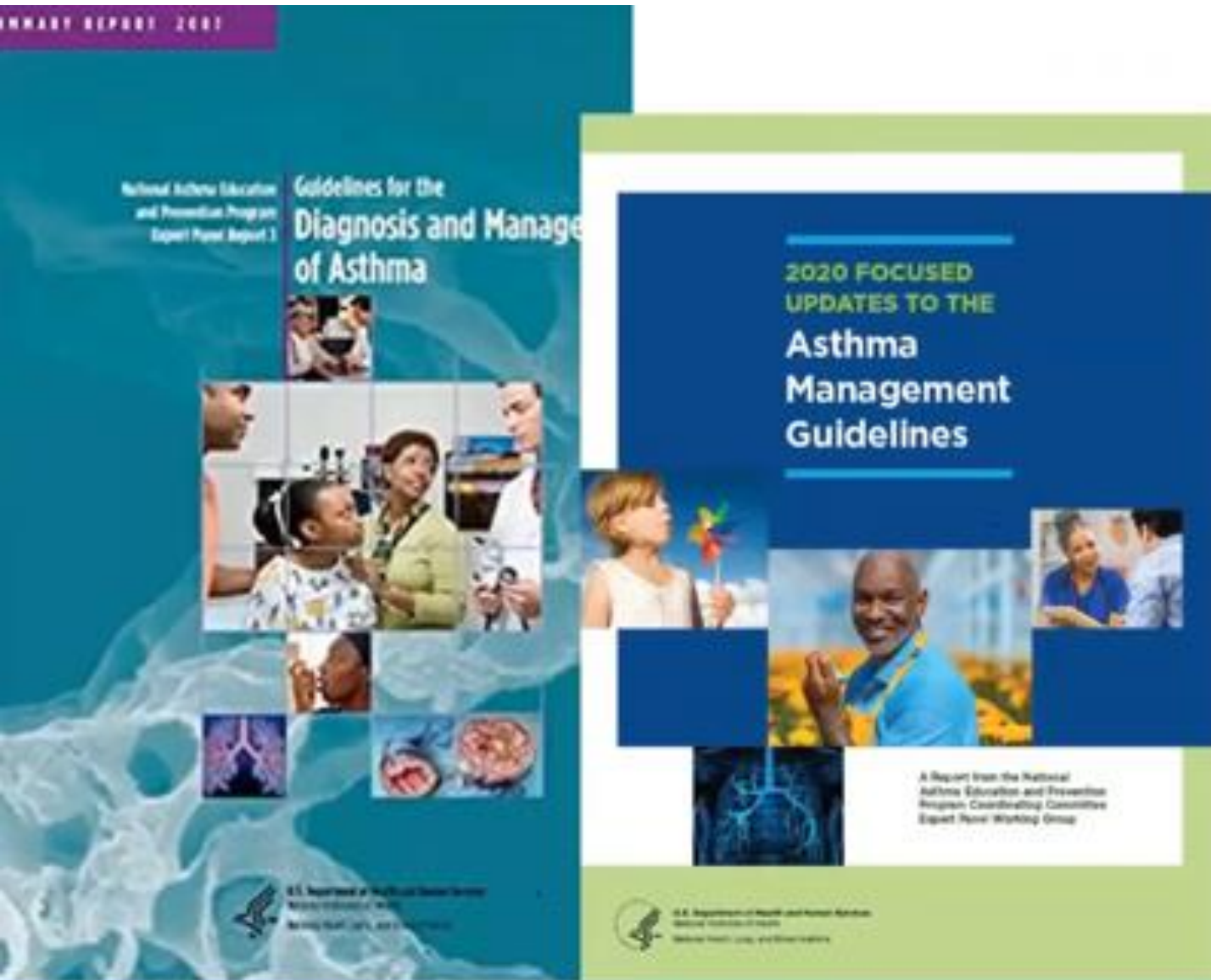
**Cyndi Leaphart, RN**

# Overview of Today's Presentation



1. Brief review of pathophysiology
2. Asthma Guidelines update
  - a) Assigning severity rating
  - b) Using stepwise therapy to select asthma medications
  - c) Transitioning patients to smart therapy
  - d) Monitoring asthma control
  - e) Using AAP to education pt. on treatment plan
3. Asthma clinic visits and the nurse's role - ACT

# Four Components of Asthma Management



1. Assessment and Monitoring
2. Control of Factors Contributing to Asthma Severity
3. Education for a Partnership in Asthma Care
4. Pharmacological Therapy

# Asthma is.....

## 1. **Chronic inflammatory disorder of the airways**

- Mast cells, eosinophils and lymphocytes infiltrate into airway lining
- Airway hyper-responsiveness

## 2. **Excessive reaction to “minor” irritants results in:**

- Bronchial wall edema
- Smooth muscle contraction

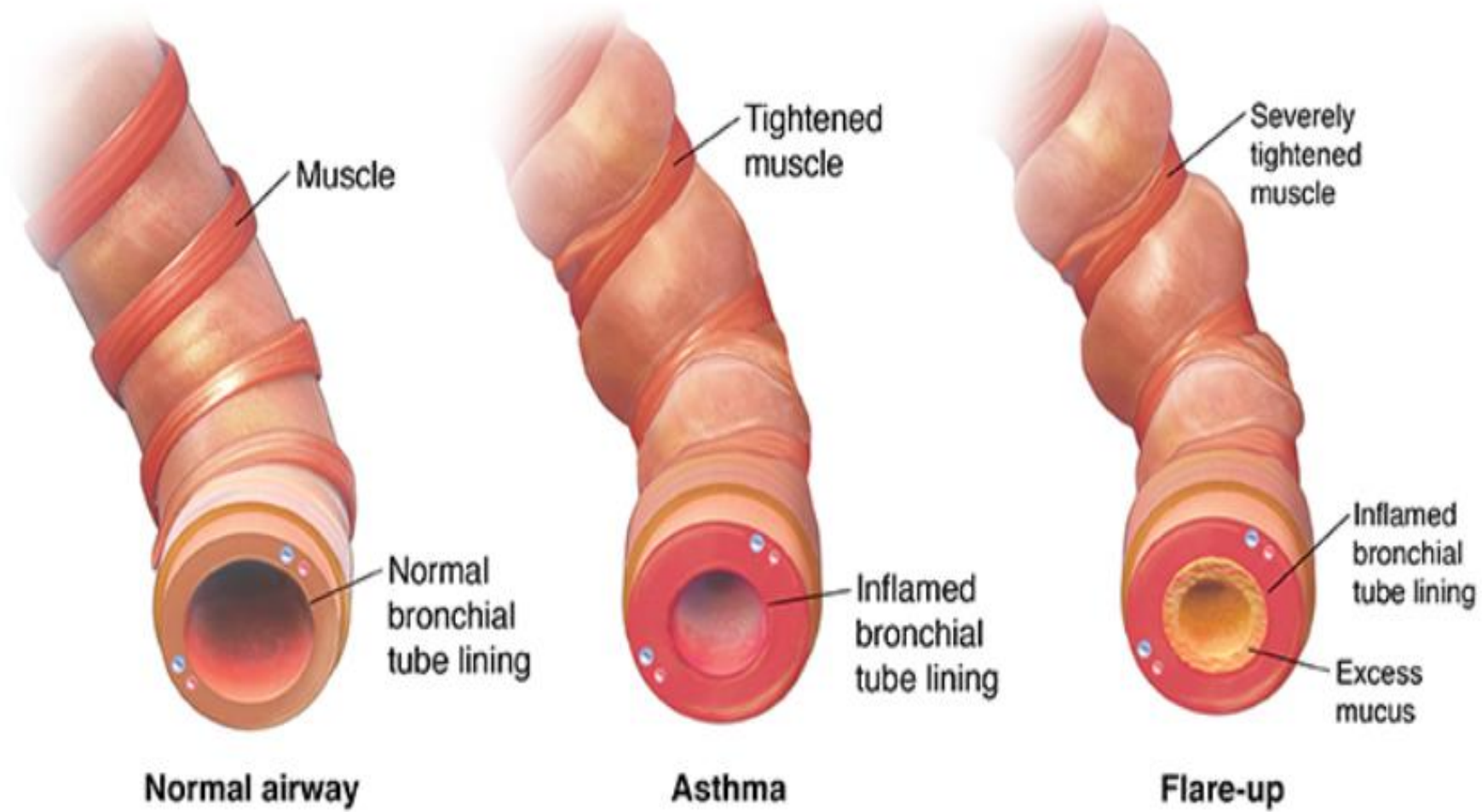
## 3. **Excess mucus production**

## What is Asthma?





# Pathophysiology of asthma



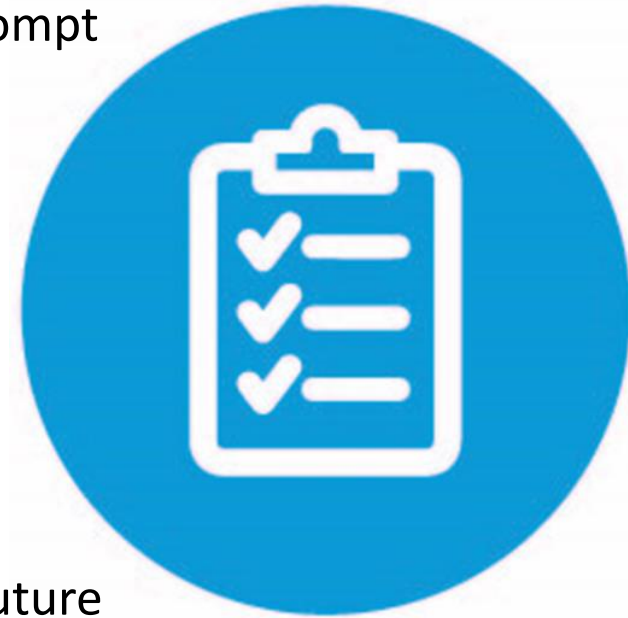
# Asthma Medications

- **Quick relief medications**

- Used to treat or relieve asthma symptoms & prevent EIA
- Should **AL**ways have it with them (**AL**buterol)
- Opens airways by relaxing the muscles that surround the airway to provide prompt relief of symptoms
- Works very quickly, but for a short period of time (3-4 hrs)
- Will not provide long term asthma control
- Examples: Albuterol, ProAir, Proventil, Ventolin, Xopenex

- **Long term control medications**

- Use daily to prevent symptoms, often by reducing inflammation
- With reduced inflammation on the inside of the airway and helps to prevent future episodes
- Must be taken daily
- Will not give quick relief
- Examples: Flovent, Pulmicort, Qvar, Asmanex, Advair, Dulera, Symbicort



## Why do people get asthma

# Experts are still unsure of the exact causes of asthma

Factors may include:

- Environment
- Genetics
- Obesity
- Exposure to childhood diseases
- Inactivity
- Smoking during pregnancy
- Secondhand smoke

**Behavior**





# Health Disparities Related to Asthma in Montana

Total Asthma Prevalence in Montana: 10% of all adults – over 100,000

Asthma Prevalence in Children in Montana: 6.7% - approximately 15,000

Gender: Females higher rate than Males

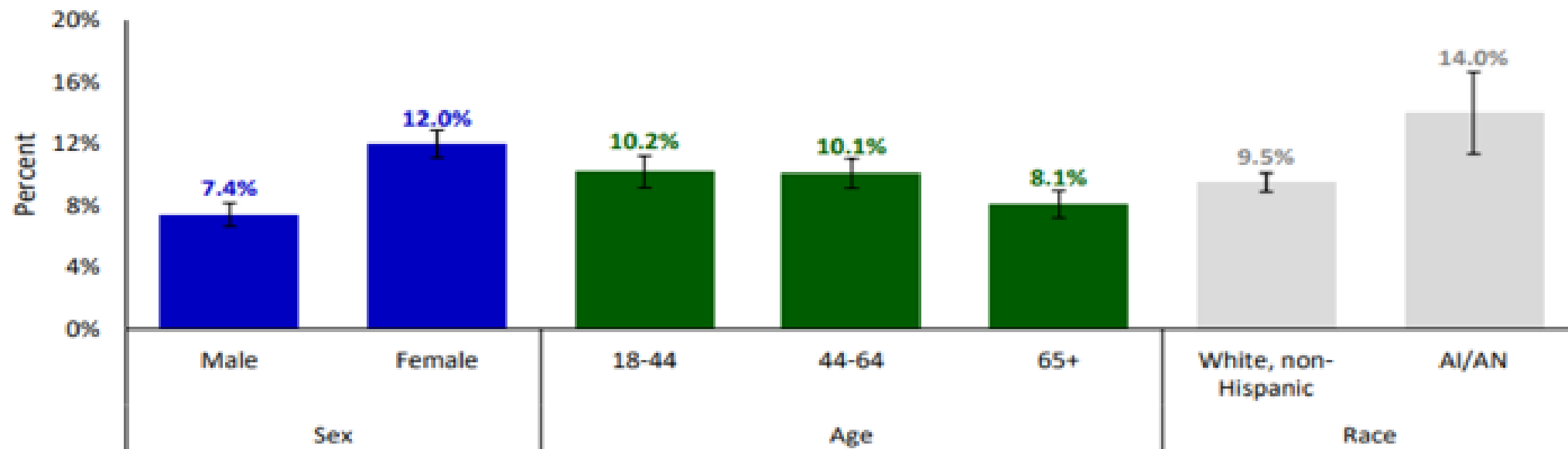
Race: American Indians/Alaskan Natives higher rate than White, Non Hispanic

Median Household income: Lower household income = Higher asthma prevalence

Overweight/Obese: Higher BMI = Higher risk of developing asthma

Smoking: Tobacco is a common trigger and can increase symptoms

Figure 2. Percent of Adults with Current Asthma by Sex, Age, and Race, Montana, BRFSS, 2015-2019



## Guidelines Implementation Panel: Priority Messages

**Assess asthma  
severity**

**Assess and monitor  
asthma control**

**Use inhaled  
corticosteroids**

**Use written asthma  
action plans**

**Schedule follow-up  
visits**

**Control  
environmental  
exposures**

## Distinguishing between Severity and Control?

**Severity:** the intrinsic intensity of the disease process

Assess to initiate therapy

- Intermittent/Persistent
- Mild Persistent
- Moderate Persistent
- Severe Persistent

**Control:** the degree to which symptoms are minimized by therapeutic interventions

- Monitor to adjust therapy
- Well controlled
- Not well controlled
- Very poorly controlled



# Asthma Severity Is the Cornerstone of Therapy



Physicians underestimate the severity of asthma classification

Braganza, S. 2005. *J of Asthma*. <https://doi.org/10.1081/JAS-120019037>

Only of 40% of pediatric asthma patients had asthma severity ratings

*Arch Pediatr Adolesc Med*. 2002;156(2):141-146. doi:10.1001/archpedi.156.2.141

Inaccurate severity rating leads to suboptimal therapy

Less use of ICS; more exacerbations

Black patients are more likely than white patients to have severity underestimated. (Okelo, S. 2007. *J General Inter Med*. 22).

## Decision Support Tools Can Help



1. Daytime symptoms
2. Nighttime symptoms
3. SABA use
4. Interference with daily activities
5. Lung function



Components of Severity		Intermittent			Persistent									
			Mild		Moderate			Severe						
		Ages 0-4 years	Ages 5-11 years	Ages ≥12 years	Ages 0-4 years	Ages 5-11 years	Ages ≥12 years	Ages 0-4 years	Ages 5-11 years	Ages ≥12 years	Ages 0-4 years	Ages 5-11 years	Ages ≥12 years	
Impairment	Symptoms	≤2 days/week			>2 days/week but not daily			Daily			Throughout the day			
	Nighttime awakenings	0	≤2x/month		1-2x/month	3-4x/month		3-4x/month	>1x/week but not nightly		>1x/week	Often 7x/week		
	SABA* use for symptom control (not to prevent EIB*)	≤2 days/week			>2 days/week but not daily		>2 days/week but not daily and not more than once on any day		Daily			Several times per day		
	Interference with normal activity	None			Minor limitation			Some limitation			Extremely limited			
	Lung function		Normal FEV <sub>1</sub> between exacerbations	Normal FEV <sub>1</sub> between exacerbations										
• FEV <sub>1</sub> * (% predicted)	Not applicable	>80%	>80%	Not applicable	>80%	>80%	Not applicable	60-80%	60-80%	Not applicable	<60%	<60%		
• FEV <sub>1</sub> /FVC*		>85%	Normal <sup>1</sup>		>80%	Normal <sup>1</sup>		75-80%	Reduced 5% <sup>1</sup>		<75%	Reduced >5% <sup>1</sup>		
Risk	Asthma exacerbations requiring oral systemic corticosteroids <sup>1</sup>	0-1/year			≥2 exacerb. in 6 months, or wheezing ≥4x per year lasting >1 day AND risk factors for persistent asthma			Generally, more frequent and intense events indicate greater severity.			Generally, more frequent and intense events indicate greater severity.			
		<i>Consider severity and interval since last asthma exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. Relative annual risk of exacerbations may be related to FEV<sub>1</sub>*.</i>												
<b>Recommended Step for Initiating Therapy</b> (See "Stepwise Approach for Managing Asthma Long Term," page 7) The stepwise approach is meant to help, not replace, the clinical decision-making needed to meet		Step 1			Step 2			Step 3	Step 3 medium-dose ICS* option	Step 3	Step 3	Step 3 medium-dose ICS* option or Step 4	Step 4 or 5	
		Consider short course of oral systemic corticosteroids.												
		In 2-6 weeks, depending on severity, assess level of asthma control achieved and adjust therapy as needed.												



## Components of Severity

## Classification of Asthma Severity (Youths ≥12 years of age and adults)

Components of Severity		Classification of Asthma Severity (Youths ≥12 years of age and adults)			
		Intermittent	Persistent		
			Mild	Moderate	Severe
<p><b>Impairment</b></p> <p>Normal FEV<sub>1</sub>/FVC:</p> <p>8–19 yr 85%</p> <p>20–39 yr 80%</p> <p>40–59 yr 75%</p> <p>60–80 yr 70%</p>	Symptoms	≤2 days/week	>2 days/week but not daily	Daily	Throughout the day
	Nighttime awakenings	≤2x/month	3–4x/month	>1x/week but not nightly	Often 7x/week
	Short-acting beta <sub>2</sub> -agonist use for symptom control (not prevention of EIB)	≤2 days/week	>2 days/week but not >1x/day	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
	Lung function	<ul style="list-style-type: none"> <li>• Normal FEV<sub>1</sub> between exacerbations</li> <li>• FEV<sub>1</sub> &gt;80% predicted</li> <li>• FEV<sub>1</sub>/FVC normal</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub> ≥80% predicted</li> <li>• FEV<sub>1</sub>/FVC normal</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub> &gt;60% but &lt;80% predicted</li> <li>• FEV<sub>1</sub>/FVC reduced 5%</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub> &lt;60% predicted</li> <li>• FEV<sub>1</sub>/FVC reduced &gt;5%</li> </ul>
<p><b>Risk</b></p>	<p>Exacerbations requiring oral systemic corticosteroids</p>	0–1/year (see note)	≥2/year (see note) →		
		← Consider severity and interval since last exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. →			
		Relative annual risk of exacerbations may be related to FEV <sub>1</sub>			

## Components of Severity

## Classification of Asthma Severity (Youths $\geq 12$ years of age and adults)

		Classification of Asthma Severity (Youths $\geq 12$ years of age and adults)			
		Intermittent	Mild	Persistent Moderate	Severe
<b>Impairment</b>  Normal FEV <sub>1</sub> /FVC: 8–19 yr 85% 20–39 yr 80% 40–59 yr 75% 60–80 yr 70%	Symptoms	$\leq 2$ days/week	$> 2$ days/week but not daily	Daily	Throughout the day
	Nighttime awakenings	$\leq 2$ x/month	3–4x/month	$> 1$ x/week but not nightly	Often 7x/week
	Short-acting beta <sub>2</sub> -agonist use for symptom control (not prevention of EIB)	$\leq 2$ days/week	$> 2$ days/week but not $> 1$ x/day	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
	Lung function	<ul style="list-style-type: none"> <li>• Normal FEV<sub>1</sub> between exacerbations</li> <li>• FEV<sub>1</sub> <math>&gt; 80\%</math> predicted</li> <li>• FEV<sub>1</sub>/FVC normal</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub> <math>\geq 80\%</math> predicted</li> <li>• FEV<sub>1</sub>/FVC normal</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub> <math>&gt; 60\%</math> but <math>&lt; 80\%</math> predicted</li> <li>• FEV<sub>1</sub>/FVC reduced 5%</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub> <math>&lt; 60\%</math> predicted</li> <li>• FEV<sub>1</sub>/FVC reduced <math>&gt; 5\%</math></li> </ul>
<b>Risk</b>	<b>Exacerbations requiring oral systemic corticosteroids</b>	0–1/year (see note)	$\geq 2$ /year (see note) $\longrightarrow$		
		$\longleftarrow$ Consider severity and interval since last exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. $\longrightarrow$			
		Relative annual risk of exacerbations may be related to FEV <sub>1</sub>			

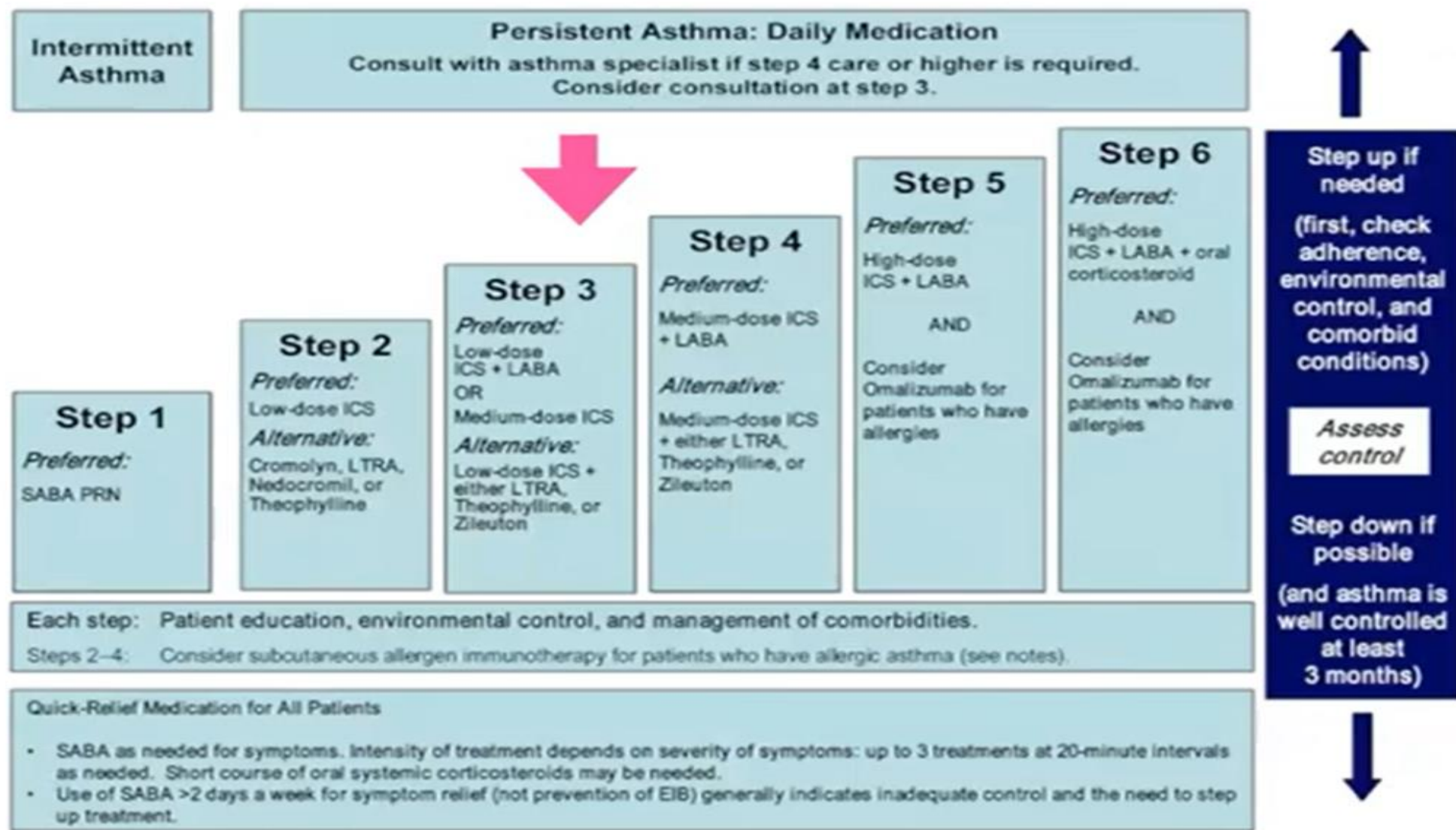


## INITIAL VISIT: CLASSIFYING ASTHMA SEVERITY AND INITIATING THERAPY

(In patients who are not currently taking long-term control medications)

Level of severity (Columns 2-5) is determined by events listed in Column 1 for both impairment (frequency and intensity of symptoms and functional limitations) and risk (of exacerbations). Assess impairment by patient's or caregiver's recall of events during the previous 2-4 weeks; assess risk over the last year. Recommendations for initiating therapy based on level of severity are presented in the last row.

Components of Severity	Intermittent			Mild			Persistent Moderate			Severe			
	Ages 0-4 years	Ages 5-11 years	Ages ≥12 years	Ages 0-4 years	Ages 5-11 years	Ages ≥12 years	Ages 0-4 years	Ages 5-11 years	Ages ≥12 years	Ages 0-4 years	Ages 5-11 years	Ages ≥12 years	
Impairment	Symptoms	≤2 days/week			>2 days/week but not daily			Daily			Throughout the day		
	Nighttime awakenings	0	≤2x/month		1-2x/month	3-4x/month		3-4x/month	>1x/week but not nightly		>1x/week	Often 7x/week	
	SABA* use for symptom control (not to prevent EIB†)	≤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	Not applicable	Normal FEV <sub>1</sub> between exacerbations	Normal FEV <sub>1</sub> between exacerbations	Not applicable	>80%	>80%	Not applicable	60-80%	60-80%	Not applicable	<60%	<60%
• FEV <sub>1</sub> * (% predicted)	>80%		>80%	>80%		>80%	75-80%		Reduced †§	<75%		Reduced †§	
• FEV <sub>1</sub> /FVC*		>85%	Normal†		>80%	Normal†		75-80%	Reduced †§		<75%	Reduced †§	
Risk	0-1/year			≥2 exacerb. in 6 months, or wheezing ≥1x per year lasting >1 day AND risk factors for persistent asthma			Generally, more frequent and intense events indicate greater severity.			Generally, more frequent and intense events indicate greater severity.			
	<p>Consider severity and interval since last asthma exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. Relative annual risk of exacerbations may be related to FEV<sub>1</sub>*.</p>												
Recommended Step for Initiating Therapy	Step 1			Step 2			Step 3	Step 3 medium-dose ICS* option	Step 3	Step 3	Step 3 medium-dose ICS* option or Step 4	Step 4 or 5	
<p>(See "Stepwise Approach for Managing Asthma Long Term," page 7)</p> <p>The stepwise approach is meant to help, not replace, the clinical decisionmaking needed to meet individual patient needs.</p>	<p>In 2-6 weeks, depending on severity, assess level of asthma control achieved and adjust therapy as needed. For children 0-4 years old, if no clear benefit is observed in 4-6 weeks, consider adjusting therapy or alternate diagnoses.</p>												



— **Key:** Alphabetical order is used when more than one treatment option is listed within either preferred or alternative therapy. EIB, exercise-induced bronchospasm; ICS, inhaled corticosteroid; LABA, long-acting inhaled beta<sub>2</sub>-agonist; LTRA, leukotriene receptor antagonist; SABA, inhaled short-acting beta<sub>2</sub>-agonist

## ESTIMATED COMPARATIVE DAILY DOSAGES: INHALED CORTICOSTEROIDS FOR LONG-TERM ASTHMA CONTROL

Daily Dose	0-4 years of age			5-11 years of age			≥12 years of age		
	Low	Medium*	High*	Low	Medium*	High*	Low	Medium*	High*
<b>MEDICATION</b>									
<b>Beclomethasone MDI<sup>†</sup></b>	N/A	N/A	N/A	80-160 mcg	>160-320 mcg	>320 mcg	80-240 mcg	>240-480 mcg	>480 mcg
40 mcg/puff				1-2 puffs 2x/day	3-4 puffs 2x/day		1-3 puffs 2x/day	4-6 puffs 2x/day	
80 mcg/puff				1 puff 2x/day	2 puffs 2x/day	≥3 puffs 2x/day	1 puff am, 2 puffs pm	2-3 puffs 2x/day	≥4 puffs 2x/day
<b>Budesonide DPI<sup>†</sup></b>	N/A	N/A	N/A	180-360 mcg	>360-720 mcg	>720 mcg	180-540 mcg	>540-1080 mcg	>1080 mcg
90 mcg/inhalation				1-2 inhs <sup>†</sup> 2x/day	3-4 inhs <sup>†</sup> 2x/day		1-3 inhs <sup>†</sup> 2x/day		
180 mcg/inhalation					2 inhs <sup>†</sup> 2x/day	≥3 inhs <sup>†</sup> 2x/day	1 inh <sup>†</sup> am, 2 inhs <sup>†</sup> pm	2-3 inhs <sup>†</sup> 2x/day	≥4 inhs <sup>†</sup> 2x/day
<b>Budesonide Nebules</b>	0.25-0.5 mg	>0.5-1.0 mg	>1.0 mg	0.5 mg	1.0 mg	2.0 mg	N/A	N/A	N/A
0.25 mg	1-2 nebs <sup>†</sup> /day			1 neb <sup>†</sup> 2x/day					
0.5 mg	1 neb <sup>†</sup> /day	2 nebs <sup>†</sup> /day	3 nebs <sup>†</sup> /day	1 neb <sup>†</sup> /day	1 neb <sup>†</sup> 2x/day				
1.0 mg		1 neb <sup>†</sup> /day	2 nebs <sup>†</sup> /day		1 neb <sup>†</sup> /day	1 neb <sup>†</sup> 2x/day			
<b>Ciclesonide MDI<sup>†</sup></b>	N/A	N/A	N/A	80-160 mcg	>160-320 mcg	>320 mcg	160-320 mcg	>320-640 mcg	>640 mcg
80 mcg/puff				1-2 puffs/day	1 puff am, 2 puffs pm-2 puffs 2x/day	≥3 puffs 2x/day	1-2 puffs 2x/day	3-4 puffs 2x/day	
160 mcg/puff				1 puff/day	1 puff 2x/day	≥2 puffs 2x/day		2 puffs 2x/day	≥3 puffs 2x/day
<b>Flunisolide MDI<sup>†</sup></b>	N/A	N/A	N/A	160 mcg	320-480 mcg	≥480 mcg	320 mcg	>320-640 mcg	>640 mcg
80 mcg/puff				1 puff 2x/day	2-3 puffs 2x/day	≥4 puffs 2x/day	2 puffs 2x/day	3-4 puffs 2x/day	≥5 puffs 2x/day

\* It is preferable to use a higher mcg/puff or mcg/inhalation formulation to achieve as low a number of puffs or inhalations as possible.

<sup>†</sup> Abbreviations: DPI, dry powder inhaler (requires deep, fast inhalation); inh, inhalation; MDI, metered dose inhaler (releases a puff of medication); neb, nebulizer.



# AGES 5-11 YEARS: STEPWISE APPROACH FOR MANAGEMENT OF ASTHMA

	Intermittent Asthma	Management of Persistent Asthma in Individuals Ages 5-11 Years				
Treatment	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
<b>Preferred</b>	PRN SABA	Daily low-dose ICS and PRN SABA	Daily and PRN combination low-dose ICS-formoterol ▲	Daily and PRN combination medium-dose ICS-formoterol ▲	Daily high-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA + oral systemic corticosteroid and PRN SABA
<b>Alternative</b>		Daily LTRA,* or Cromolyn,* or Nedocromil,* or Theophylline,* and PRN SABA	Daily medium-dose ICS and PRN SABA or Daily low-dose ICS-LABA, or daily low-dose ICS + LTRA,* or daily low-dose ICS + Theophylline,* and PRN SABA	Daily medium-dose ICS-LABA and PRN SABA or Daily medium-dose ICS + LTRA* or daily medium-dose ICS + Theophylline,* and PRN SABA	Daily high-dose ICS + LTRA* or daily high-dose ICS + Theophylline,* and PRN SABA	Daily high-dose ICS + LTRA* + oral systemic corticosteroid or daily high-dose ICS + Theophylline* + oral systemic corticosteroid, and PRN SABA
		Steps 2-4: Conditionally recommend the use of subcutaneous immunotherapy as an adjunct treatment to standard pharmacotherapy in individuals ≥ 5 years of age whose asthma is controlled at the initiation, build up, and maintenance phases of immunotherapy ▲			Consider Omalizumab** ▲	

**Note Steps 2-4:** Conditionally recommend the use of subcutaneous immunotherapy as an adjunct treatment in ≥5 years of age. If Step 4 or higher is needed, consider asthma specialist.



# SMART Therapy (Single Maintenance and Reliever Therapy)

Not new concept  
(Scicchitano 2004, Rabe  
2006, Chapman 2010)

SMART is for Step 3  
(low-dose ICS) and Step  
4 (medium-dose ICS).

For individuals whose  
asthma is uncontrolled  
on ICS-LABA with SABA  
as quick-relief.

SMART used for  
controller therapy AND  
quick-relief therapy.

Patients with  
exacerbations in prior  
year are good  
candidates

Considerations: Lower risk of  
growth suppression, 1 month  
supply may not be sufficient for  
both controller and quick-  
relief; spacer recommended.

Meta-analysis of 16 randomly controlled trials with 22,748 patients. For patients  $\geq 12$  years, SMART was associated with reduced exacerbations compared to ICS at same dose or ICS-LABA at higher dose as controller therapy. (Sobieraj, D, 2018, JAMA).

## Current SMART Therapy Options

### Symbicort MDI (budesonide/formoterol)

6-11 yo: 80/4.5 2 puffs 2x/day  
≥12 yo: 80-160/4.5 2 puffs  
2x/day

Spacer recommended

Max doses/day: 8 for children;  
12 for adults

### Dulera MDI (mometasone/ formoterol)

5-11 yo: 50/5 2 puffs 2x/day  
≥12 yo: 100-200/5 2 puffs  
2x/day

Spacer recommended

Max doses/day: 8 for kids; 12  
for adults

Symbicort DPI\*: Ages ≥ 12: Dose 200/6 mcg 1 to 2 puffs twice daily; May increase to 4 puffs twice daily If ≥ 18 yo Max: 6 inhalations at a single time, no more than 12 inhalations daily

Symbicort DPI\*: Ages 6-11 Dose 100/6 mcg 1 inhalation twice daily

*\*Not currently available in the United States*

# SMART Therapy (Single Maintenance and Reliever Therapy)

- Inhaled ICS-formoterol in a single inhaler used for controller and reliever
- SMART is appropriate for Step 3 (low-dose ICS) and Step 4 (medium-dose ICS)
- ICS-formoterol should be administered as
  - Maintenance therapy with 1-2 puffs once or twice daily (depending on age, asthma severity and ICS dose)
  - And 1-2 puffs as needed for asthma symptoms
- Benefits
  - Lower risk of growth suppression
  - 1 month supply may not be sufficient for both – write on prescription
  - Spacer recommended
  - Patients with exacerbations in the prior year are good candidates
- FDA approval for these drugs are at age 5 but the new guidelines recommend using it starting at age 4 so technically, this is an off-label use

# SABA overuse leads to exacerbations, ED visits, hospitalizations, death

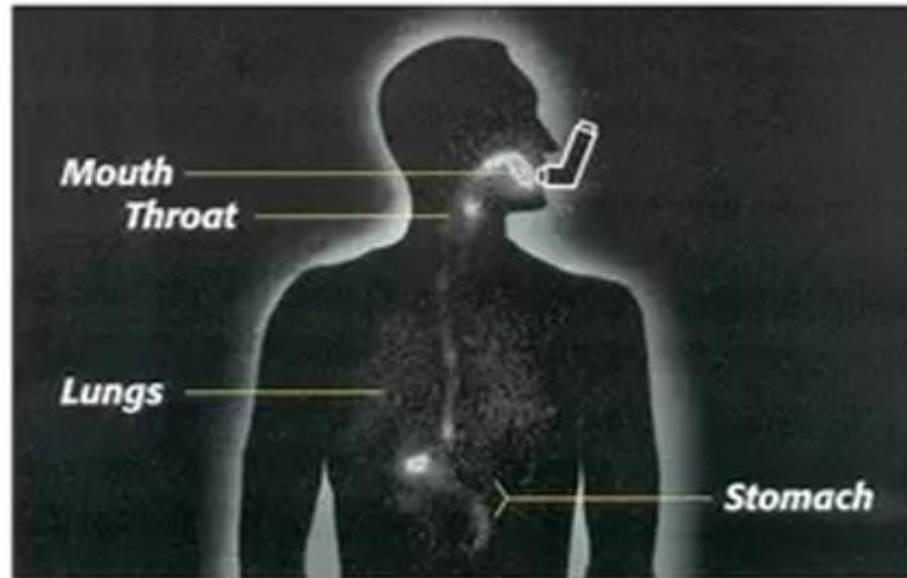
Overuse is a  
big problem

High SABA usage indicates  
poor control and a need to  
reassess controller  
medications/adherence  
and triggers.

Should be prescribed  
1 or 2 at a time  
(not 11 refills).

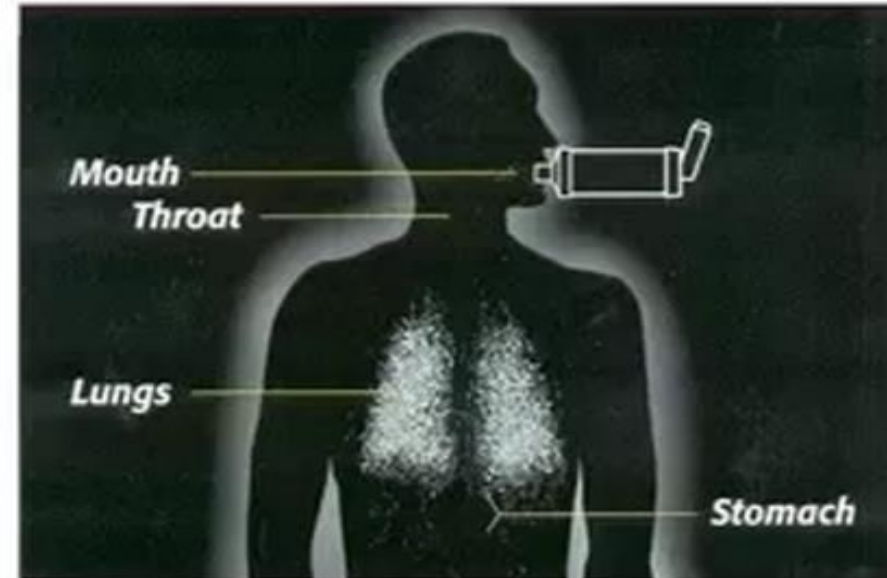
## Why use a spacer with a multi dose inhaler?

# Why use a **Spacer** with an Inhaler?



### **Inhaler alone**

When an inhaler is used alone, medicine ends up in the mouth, throat, stomach and lungs.



### **Inhaler used with spacer device**

When an inhaler is used with a spacer device, more medicine is delivered to the lungs.

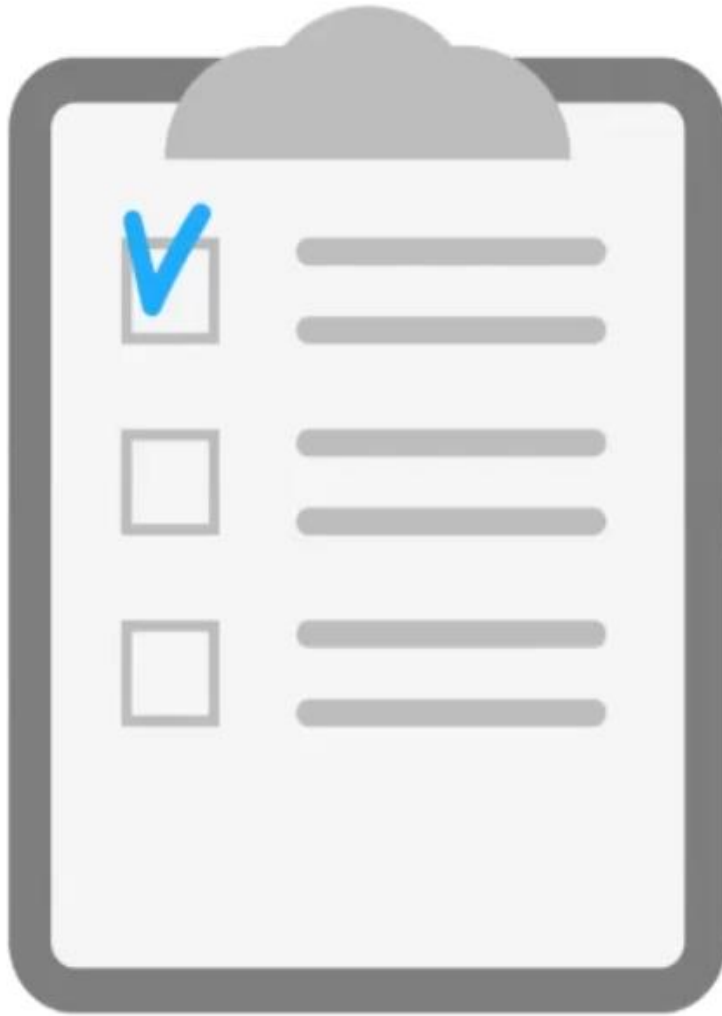




# Collapsible spacers



## What is an Asthma Action Plan and do I really need it?



- **Created in partnership with the patient for guided self-management**
- **Addresses daily management to maintain control**
- **Identifies what to do by recognizing and handling worsening asthma**

# Created in Partnership with the Patient

## Is AAP understandable and culturally appropriate?

### FORMAT

- Can range from simple design to more detailed design
- Age appropriate, child/adult versions
- Increased font size for elderly
- Includes visual elements

### LANGUAGE

- Use language that is understandable to the patient (i.e., Advair, “flat, purple inhaler”; Proventil, “yellow pump”)
- Use culturally appropriate imagery

**Tailor the plan to the patient**

### SYMPTOM-BASED VS. PFM-BASED

- Symptoms only
- Symptoms plus peak flow

### ACCESSIBILITY

- Consider who should have a copy, such as parents, caregivers, teachers, coaches, and other childcare providers
- Available in print format, triplicate form, web-based, or mobile-friendly

## Health Literacy and the AAP

Self-management skills poorer among patients with limited reading ability.

1 out of 4 cannot understand basic written material (Kirsh, 1993).

AAPs should meet readability standards of fifth grade level or lower.



Provider: \_\_\_\_\_ Clinic: \_\_\_\_\_



## My Asthma Action Plan

Name: \_\_\_\_\_ DOB: \_\_\_\_/\_\_\_\_/\_\_\_\_

Severity Classification:  Intermittent  Mild Persistent  Moderate Persistent  Severe Persistent

Asthma Triggers (list): \_\_\_\_\_

Peak Flow Meter Personal Best: \_\_\_\_\_

### Green Zone: Doing Well

Symptoms: Breathing is good – No cough or wheeze – Can work and play – Sleeps well at night

Peak Flow Meter \_\_\_\_\_ (more than 80% of personal best)

Flu Vaccine—Date received: \_\_\_\_\_ Next flu vaccine due: \_\_\_\_\_ COVID19 vaccine—Date received: \_\_\_\_\_

Control Medicine(s)	Medicine	How much to take	When and how often to take it
_____	_____	_____	_____

Physical Activity  Use Albuterol/Levalbuterol \_\_\_\_\_ puffs, 15 minutes before activity  
 with all activity  when you feel you need it

### Yellow Zone: Caution

Symptoms: Some problems breathing – Cough, wheeze, or tight chest – Problems working or playing – Wake at night

Peak Flow Meter \_\_\_\_\_ to \_\_\_\_\_ (between 50% and 79% of personal best)

Quick-relief Medicine(s)  Albuterol/Levalbuterol \_\_\_\_\_ puffs, every 20 minutes for up to 4 hours as needed

Control Medicine(s)  Continue Green Zone medicines

Add \_\_\_\_\_  Change to \_\_\_\_\_

You should feel better within 20-60 minutes of the quick-relief treatment. If you are getting worse or are in the Yellow Zone for more than 24 hours, THEN follow the instructions in the RED ZONE and call the doctor right away!

### Red Zone: Get Help Now!

Symptoms: Lots of problems breathing – Cannot work or play – Getting worse instead of better – Medicine is not helping

Peak Flow Meter \_\_\_\_\_ (less than 50% of personal best)

Take Quick-relief Medicine NOW!  Albuterol/Levalbuterol \_\_\_\_\_ puffs, \_\_\_\_\_ (how frequently)

Call 911 immediately if the following danger signs are present:

- Trouble walking/talking due to shortness of breath
- Lips or fingernails are blue
- Still in the Red Zone after 15 minutes

Emergency Contact Name \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_



## Plan de acción contra el asma para el hogar y la escuela

Nombre: \_\_\_\_\_ Fecha de nacimiento: \_\_\_\_/\_\_\_\_/\_\_\_\_

Clasificación de gravedad:  Intermittente  Persistente leve  Persistente moderado  Persistente grave

Desencadenantes del asma (lista): \_\_\_\_\_

Mejor marca personal del flujómetro: \_\_\_\_\_

### Zona verde: Anda bien

Síntomas: La respiración es buena – Sin tos ni resaca – Puede trabajar y jugar – Duerme bien a la noche

Flujómetro \_\_\_\_\_ (más del 80% de la mejor marca personal)

Vacuna contra la gripe – Fecha de aplicación: \_\_\_\_\_ Fecha de próxima vacuna contra la gripe: \_\_\_\_\_

Vacuna contra la COVID-19 – Fecha de aplicación: \_\_\_\_\_

Medicamento/s de control	Medicamento	Cuánto tomar	Cuándo y con qué frecuencia tomarlo
_____	_____	_____	_____

Actividad física  usa albuterol/levalbuterol \_\_\_\_\_ puffs, 15 minutos antes de la actividad  con todas las actividades  
 cuando el niño siente que lo necesita

### Zona amarilla: Precaución

Síntomas: Algunos problemas de respiración – Tos, resaca, u opresión en el pecho – Problemas para trabajar o jugar – Se despierta a la noche

Flujómetro \_\_\_\_\_ a \_\_\_\_\_ (entre 50% y 79% de la mejor marca personal)

Medicamento/s de alivio rápido  Albuterol/levalbuterol \_\_\_\_\_ Inhalaciones cada 20 minutos por hasta 4 horas según sea necesario

Medicamento/s de control  Continuar con los medicamentos de la Zona verde

Agregar \_\_\_\_\_  Cambiar por \_\_\_\_\_

El niño se debe sentir mejor dentro de 20-60 minutos del tratamiento de alivio rápido. Si el niño empeora o está en la Zona amarilla durante más de 24 horas, siga las instrucciones de la ZONA ROJA y llame al médico inmediatamente.

### Zona roja: ¡Consigue ayuda ahora!

Síntomas: Muchos problemas de respiración – No puede trabajar o jugar – Empeora en vez de mejorar – El medicamento no ayuda

Flujómetro \_\_\_\_\_ (menos del 50% de la mejor marca personal)

¡Tome el medicamento de alivio rápido AHORA!  Albuterol/levalbuterol \_\_\_\_\_ puffs, \_\_\_\_\_ (con qué frecuencia)

Llame al 911 inmediatamente si presenta las siguientes señales de peligro

- Dificultad para caminar/hablar debido a la falta de aire
- Labios o uñas azules
- Sigue en la zona roja después de 15 minutos

**Personal escolar:** Siga las instrucciones de la Zona amarilla y roja respecto de los medicamentos de alivio rápido de acuerdo con los síntomas del asma. Los únicos medicamentos de control que podrán administrarse en la escuela son los que figuran en la Zona verde con una tildes junto a "Tomar en la escuela".

Tanto el proveedor de atención médica como el padre/tutor consideran que el niño ha demostrado capacidad para llevar y auto-administrarse su inhalador de alivio rápido, incluida la capacidad de avisar a un adulto si los síntomas no mejoran después de tomar el medicamento.

#### Proveedor de atención médica

Nombre \_\_\_\_\_ Fecha \_\_\_\_\_ Teléfono (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Firma \_\_\_\_\_

#### Padre/tutor

Autorizo que un enfermero u otro personal escolar administren en la escuela los medicamentos que figuran en el plan de acción según corresponda.

Autorizo la comunicación entre la clínica o el proveedor de atención médica que prescribe, el enfermero de la escuela, el asesor médico de la escuela y los proveedores de la clínica de salud ubicada en la escuela que sea necesaria para el control del asma y la administración de este medicamento.

Nombre \_\_\_\_\_ Fecha \_\_\_\_\_ Teléfono (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Firma \_\_\_\_\_

#### Enfermero de la escuela

El estudiante ha demostrado capacidad para llevar y auto-administrarse su inhalador de alivio rápido, incluida la capacidad de avisar a un adulto si los síntomas no mejoran después de tomar el medicamento.

Nombre \_\_\_\_\_ Fecha \_\_\_\_\_ Teléfono (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Firma \_\_\_\_\_

Envíe una copia firmada al proveedor que figura arriba.

1-800-LUNGUSA | Lung.org



# Find a plan appropriate for YOUR patient

## Asthma Action Plan for Children age 1-5

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Practitioner: \_\_\_\_\_ Contact #: \_\_\_\_\_

**GREEN ZONE - GOOD | Controlled Asthma**

- No/NoCough or wheezing symptoms during or between visits
- Not missing school/work
- No/NoCough waking at night

**WHAT SHOULD I DO?**  
 Continue to use your controller medicine (inhaler) every day.  
 Take your rescue medicine if you have symptoms.

Use your rescue medicine - bring your written asthma action plan to your doctor's visit.

Peak flow from \_\_\_\_\_ is \_\_\_\_\_

**Take your controller medicine every day.**

• Coughing at night  
 • Coughing, wheezing or shortness of breath, especially at night  
 • Symptoms interfering with normal activities

**YELLOW ZONE - CAUTION | Take Action - Plan Up**

**WHAT SHOULD I DO?**  
 Use your rescue controller - bring your written asthma action plan to your doctor's visit.

Use your rescue medicine - bring your written asthma action plan to your doctor's visit.

Peak flow from \_\_\_\_\_ is \_\_\_\_\_

**Use your rescue medicine - bring your written asthma action plan to your doctor's visit.**

• Not waking in the middle of the night  
 • Coughing or wheezing between visits  
 • Missing school or work  
 • Waking up at night  
 • Feeling like you need to use your rescue medicine more often  
 • Not at your best  
 • Feeling tired or fatigued

**RED ZONE - DANGER | Take Action - Get Help**

**WHAT SHOULD I DO?**  
 Call 911 or go to the nearest emergency department immediately.

Use a full-strength rescue inhaler every 4-6 hours (with most) every 15 minutes on the way to hospital or emergency department. Repeat if the symptoms do not improve.

Please review this Action Plan with your practitioner twice a year, within 3 months of a medication change or within 2 weeks following an emergency department or hospital visit. For HealthLink BC, Dial 8-1-1.

## Asthma Action Plan

www.aafa.org

The Colors of a traffic light will help you use your asthma medicines.

**Green means Go Zone!**  
Use preventive medicine.

**Yellow Means Caution Zone!**  
Add quick-relief medicine.

**Red means Danger Zone!**  
Get help from a doctor.

Personal Best Peak Flow \_\_\_\_\_

Name	Date
Doctor	Medical Record #
Doctor's Office Phone # - Day	Night/Weekend
Emergency Contact	
Doctor's Signature	

**GO**

You have all of these:  
 • Breathing is good  
 • No cough or wheezing  
 • Sleep through the night  
 • Can use your rescue medicine

Peak flow from \_\_\_\_\_ is \_\_\_\_\_

**CAUTION**

You have any of these:  
 • First signs of a cold  
 • Exposure to known trigger  
 • Cough  
 • Tight chest  
 • Mild wheezing  
 • Coughing at night

Peak flow from \_\_\_\_\_ is \_\_\_\_\_

**DANGER**

Your asthma is getting worse fast:  
 • Medicine is not helping  
 • Breathing is hard and fast  
 • Sore opens wide  
 • Ribs show  
 • Can't breathe

Peak flow reading below \_\_\_\_\_

**Use these daily preventive anti-inflammatory medicines:**

MEDICINE	HOW MUCH	HOW OFTEN/WHEN

For asthma with exercise, take:

MEDICINE	HOW MUCH	HOW OFTEN/WHEN

**Continue with green zone medicine and add:**

MEDICINE	HOW MUCH	HOW OFTEN/WHEN

**CALL YOUR PRIMARY CARE PROVIDER.**

**Take these medicines and call your doctor now.**

MEDICINE	HOW MUCH	HOW OFTEN/WHEN

**GET HELP FROM A DOCTOR NOW!** Do not be afraid of calling a taxi. Your doctor will want to see you right away. It's important! If you cannot contact your doctor, go directly to the emergency room. **DO NOT WAIT.**

Make an appointment with your primary care provider within two days of an ER visit or hospitalization.



# Find a plan appropriate for YOUR patient

**GREEN ZONE**

## Go play

Even if your child shows no signs, keep using "controller" medicines every day as prescribed.

breathes easily  
plays as usual



no coughing or wheezing  
peak flow is at normal level  
sleeps soundly

**YELLOW ZONE**

## Call doctor

If your child shows any of these signs, use "rescue" medicine right away, keep using "controller" medicine, and call your doctor.

breathes fast when standing in place  
has to breathe deeply



breathing does not get better within 20 minutes of taking "rescue" medicine  
coughs a lot at night  
hard to sleep because of breathing problems

**RED ZONE**

## Call 911

If your child shows any of these signs and has no "rescue" medicine, call 911.

hard time using a full rescue without a breath  
hard time breathing when sitting in place  
lips blue when breathing  
hard time walking



lips or fingertips are grey or blue  
breathing so hard that they are drowsy or sleep  
breathing gets worse within 20 minutes of taking "rescue" medicine

**Green Zone**

## Child is Well

...and has no asthma symptoms, even during play




**Yellow Zone**

## Child is Not Well

...and has asthma symptoms that may include:

- Coughing
- Wheezing
- Runny nose or other cold symptoms
- Breathing harder or faster
- Waking due to coughing or difficulty breathing
- Playing less than usual

Other symptoms that could indicate that your child is having difficulty breathing may include: difficulty feeding (grunting sounds, poor sucking), changes in sleep patterns, cranky and tired, decreased appetite



**Red Zone**

## Child Feels Awful!

Warning signs may include:

- Child's wheeze, cough or difficulty breathing continues or worsens, even after giving Yellow Zone medications
- Child's breathing is so hard that he/she is having trouble walking/talking/eating/playing or child is drowsy or less alert than normal



# Using a spacer

# How to care for your spacer

**Asthma + Respiratory**  
FOUNDATION NZ

## Child Asthma Action Plan



Name:

Better breathing, better living

If you use a metered dose inhaler (MDI), a spacer will help to get the right dose of medicine into your lungs. Your doctor can give you a spacer for free. Remember not to share your spacer with anyone else, and ask for a new one every year.



1. Hold the inhaler upright and give it a good shake



2. Fit the inhaler into the opening at the end of the spacer.



3. Seal the lips firmly around the mouth piece - press the inhaler once only



4. Take 6 slow breaths in and out through your mouth. Do not remove the spacer from your mouth between breaths



5. Remove the spacer from your mouth. Repeat steps 1-4 for further doses



1. Take the spacer apart (both the small and the larger spacer dismantle into 2 pieces)



2. Use warm water with a little dishwashing liquid and hand wash your spacer



3. Do not rinse or wipe the spacer. Leave the pieces on the side to dry



4. Put the spacer back together

- Younger children will need your help to follow these steps
- Children under the age of four can use a mask with the spacer

Produced by the Asthma and Respiratory Foundation NZ

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✉ info@asthmaandrespiratory.org.nz

🌐 asthmaandrespiratory.org.nz

Updated Aug 2017 - ASTH10



### Well

#### When I'm well:

- I have no cough
- I play just like other children
- I use my reliever puffer less than 2 times a week

#### My puffers are:

**Preventer:** I take this every day even when I'm well.

The name of my preventer is  The colour is   
I take  puffs in the morning and  puffs at night through a spacer.

**Reliever:** I take this only when I need it

The name of my reliever is  The colour is   
I take  puffs through a spacer when I wheeze, cough or when it's hard to breathe.

If I find it hard to breathe when I exercise I should: Take  puffs of my reliever



### Worse

#### When my asthma is getting worse:

- I cough or wheeze and it's hard to breathe, or
- I'm waking at night because of my asthma, or
- I cough or wheeze when I play, or
- I need my reliever inhaler to control my asthma more than 2 times per week

#### If my asthma gets worse I should:

Keep taking my preventer every day as normal and take  puffs of my reliever every 4 hours  
If I'm not getting better doing this I should see my doctor today

#### Contact:



### Worried

#### My asthma is a worry when:

- My reliever isn't helping, or
- I'm finding it hard to breathe, or
- I'm breathing hard and fast, or
- I'm sucking in around my ribs/throat, try looking under my shirt
- I'm looking pale or blue

- Sit me down and try to stay calm
- Give me 6 puffs of reliever through a spacer, taking 6 breaths for each puff
- If I don't start to improve I need help now

### Emergency

#### DIAL 111 and ask for an ambulance

#### WHILE YOU'RE WAITING:

- Try to stay calm and keep me sitting upright
- Give 6 puffs of reliever through a spacer every 6 minutes with 6 breaths for each puff until help arrives

Date Prepared: \_\_\_\_\_ Doctors Signature: \_\_\_\_\_ Plan to be reviewed when treatment changed



# • The NAAP Instrument

## Navajo Asthma Action Plan

### Your child's asthma action plan

Whenever using asthma medicines will help control your child's asthma. Please use this plan. Share it with your family.

Name: \_\_\_\_\_ Address: \_\_\_\_\_ Date: \_\_\_\_\_

#### 1 Take your asthma medicine

**"Daily" medicine** (controller medicine) helps prevent asthma attacks. Use it every day, even when you feel fine.

Use your child's "daily" medicine as follows:

Inhaler  Spacer  Nebulizer

\_\_\_\_\_ Puffs \_\_\_\_\_ in the morning

\_\_\_\_\_ Puffs \_\_\_\_\_ at night

Use every day (even if no breathing problems)

Mark your intake at the pharmacy

**"Rescue" medicine** (reliever medicine) helps relieve asthma symptoms when they happen.

Use your child's "rescue" medicine as follows:

Inhaler  Spacer  Nebulizer

\_\_\_\_\_ Puffs when having trouble breathing

\_\_\_\_\_ Use 1-2 puffs before leaving home

\_\_\_\_\_ If all well, use 2 puffs of reliever medicine when having trouble breathing

Mark your intake at the pharmacy

**Other medicines** (if your child has other health conditions, use as directed by your doctor)

Use other medicines as follows:

\_\_\_\_\_ Puffs \_\_\_\_\_



#### 2 Learn the signs, and take action

##### Go play

Use your "daily" medicine to prevent asthma attacks. Use it every day, even when you feel fine.

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

##### Use rescue medicine

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

##### Get help!

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

Use your "rescue" medicine to help you breathe better when you have trouble breathing.

#### 3 Stay on top of your child's asthma

**Remember to take your medications as instructed!**

**Keep your child safe from smoke.**

**If your child has a cold,**

**Check all of your child's asthma triggers before.**



#### How to use an inhaler with a spacer

1. Shake the spacer.
2. Attach the spacer to the inhaler.
3. Inhale deeply.
4. Press the inhaler.
5. Breathe in slowly and deeply.
6. Hold your breath for 10 seconds.
7. Wait 1 minute.
8. Repeat steps 1-6.

# Asthma Action Plans

**Asthma Action Plan**

**AMERICAN LUNG ASSOCIATION**

**General Information:**  
Name \_\_\_\_\_ Phone numbers \_\_\_\_\_  
Emergency contact \_\_\_\_\_ Phone numbers \_\_\_\_\_  
Physician/Health Care Provider \_\_\_\_\_ Date \_\_\_\_\_  
Physician Signature \_\_\_\_\_  
Triggers:  
 Colds  Smoke  Weather  
 Exercise  Dust  Air pollution  
 Animals  Food  
 Other \_\_\_\_\_  
Exercise:  
1. Pre-medication (how much and when) \_\_\_\_\_  
2. Exercise modifications: \_\_\_\_\_

**Severity Classification:**  
 Mild Intermittent  Moderate Persistent  
 Mild Persistent  Severe Persistent

**Green Zone: Doing Well**  
Symptoms:  
 Breathing is good  
 No cough or wheeze  
 Can work and play  
 Sleeps all night  
Peak Flow Meter:  
More than 80% of personal best or \_\_\_\_\_  
Control Medications:  
Medicine \_\_\_\_\_ How Much to Take \_\_\_\_\_ When to Take It \_\_\_\_\_  
Continue control medicines and add:  
Medicine \_\_\_\_\_ How Much to Take \_\_\_\_\_ When to Take It \_\_\_\_\_

**Yellow Zone: Getting Worse**  
Symptoms:  
 Some problems breathing  
 Cough, wheeze or chest tight  
 Problems working or playing  
 Wake at night  
Peak Flow Meter:  
Between 50 to 80% of personal best or \_\_\_\_\_  
If your symptoms (and peak flow, if used) return to Green Zone after one hour of the quick relief treatment, THEN:  
 Take quick-relief medication every 4 hours for 1 to 2 days  
 Change your long-term control medicines by \_\_\_\_\_  
 Contact your physician for follow-up care  
If your symptoms (and peak flow, if used) DO NOT return to the GREEN ZONE after 1 hour of the quick relief treatment, THEN:  
 Take quick-relief treatment again  
 Change your long-term control medicines by \_\_\_\_\_  
 Call your physician/Health Care Provider within \_\_\_\_\_ hours of modifying your medication routine

**Red Zone: Medical Alert**  
Symptoms:  
 Lots of problems breathing  
 Cannot work or play  
 Getting worse instead of better  
 Medicine is not helping  
Peak Flow Meter:  
Between 0 to 50% of personal best or \_\_\_\_\_  
Go to the hospital or call for an ambulance if:  
 Still in the red zone after 15 minutes  
 If you have not been able to reach your physician/health care provider for help  
Call an ambulance immediately if the following danger signs are present:  
 Trouble walking/talking due to shortness of breath  
 Lips or fingernails are blue

- Written instructions
- Zones:
  - Daily Management—green zone
  - All controller meds
  - Recognizing and handling worsening asthma:
    - Yellow zone
    - Red zone

## Green Zone: Doing Well

Symptoms: Breathing is good – No cough or wheeze – Can work and play – Sleeps well at night

Peak Flow Meter \_\_\_\_\_ (more than 80% of personal best)

Flu Vaccine—Date received: \_\_\_\_\_ Next flu vaccine due: \_\_\_\_\_ COVID19 vaccine—Date received: \_\_\_\_\_

Control Medicine(s)	Medicine	How much to take	When and how often to take it
	_____	_____	_____
	_____	_____	_____

Physical Activity  Use Albuterol/Levalbuterol \_\_\_\_\_ puffs, 15 minutes before activity

with all activity     when you feel you need it



Patient is doing well

No symptoms

Control medications listed here

Do not put “albuterol PRN” – give specific guidelines

EIA – pre-exercise albuterol in Physical activity section



## Red Zone: Get Help Now!

Symptoms: Lots of problems breathing – Cannot work or play – Getting worse instead of better – Medicine is not helping

Peak Flow Meter \_\_\_\_\_ (less than 50% of personal best)

Take Quick-relief Medicine NOW!  Albuterol/Levalbuterol \_\_\_\_\_ puffs, \_\_\_\_\_ (how frequently)

Call 911 immediately if the following danger signs are present:

- Trouble walking/talking due to shortness of breath
- Lips or fingernails are blue
- Still in the Red Zone after 15 minutes



Worsening symptoms

Quick relief medications – name, dosage and when to take

When to call 911

## Yellow Zone: Caution

Symptoms: Some problems breathing – Cough, wheeze, or tight chest – Problems working or playing – Wake at night

Peak Flow Meter \_\_\_\_\_ to \_\_\_\_\_ (between 50% and 79% of personal best)

Quick-relief Medicine(s)  Albuterol/Levalbuterol \_\_\_\_\_ puffs, every 20 minutes for up to 4 hours as needed

Control Medicine(s)  Continue Green Zone medicines

Add \_\_\_\_\_  Change to \_\_\_\_\_

You should feel better within 20-60 minutes of the quick-relief treatment. If you are getting worse or are in the Yellow Zone for more than 24 hours, THEN follow the instructions in the RED ZONE and call the doctor right away!



Patient does not feel well but not emergent, chest tightness, cough, tiring out sooner than normal

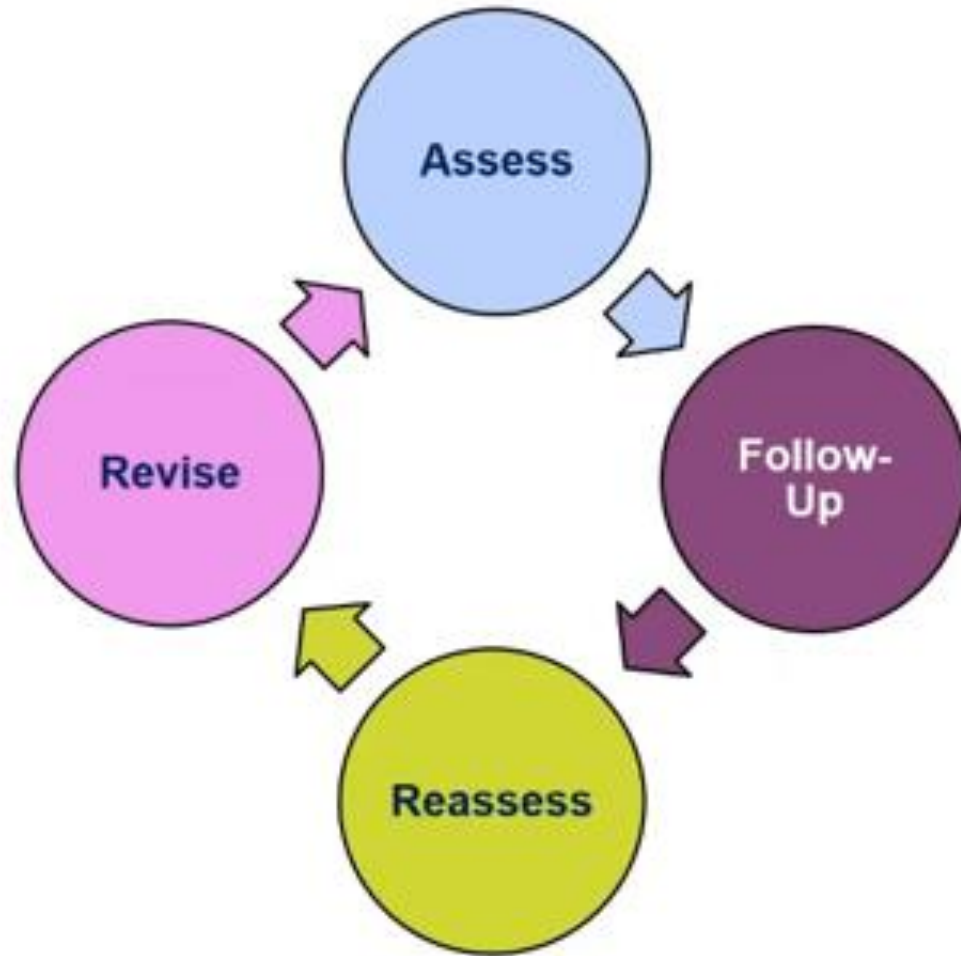
Use spacer with MDI – write that on AAP

Guidelines state **4-8 puffs q 20 min x 4 hrs**

Call provider if not better in 24 hrs

Many have gradual recovery and inflammation may continue for 2-3 weeks

# Revising Asthma Action Plans



- Control—adjust until optimal
- Ongoing assessment and communication
- Trial and error, always subject to revision
- Reassess at every visit

# Suggestions for Pre-Visit Planning Process



1. ED/Hospitalization follow-up documentation
2. ACT
3. Spirometry test
4. Medication reconciliation
5. Asthma Action Plan
6. Known allergies/triggers
7. Vaccines
8. Placebo medical delivery device for teaching purposes
9. Written or demonstration education materials

## Questions to ask patient while checking in for an asthma visit

- Continue to establish rapport with patient using simple language
- Review jointly developed treatment goals at every visit
- Ask relevant questions
  - What worries you most about your asthma? What do you want to accomplish today?
  - What do you want to be able to do that you can't now because of asthma?
  - Can you afford your meds and get to the pharmacy to pick them up?
  - Are there things in your environment that trigger you? How do you handle that?
  - What other questions do you have for me or your provider today?
- Emphasize self management at every visit
- Review meds at every visit
- Make f/u appointment and review AAP before discharge from office – ensure patient knows what s/s indicates worsening condition – phone number for office contact



# Asthma Self-Assessment: Why?

Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma, 2007

1. Select treatment based on a patient's individual needs and **level of asthma control**.
2. While asthma can be controlled, the condition can change over time and differs among individuals and by age groups.

# Validated Patient Self-Assessment Options

1. ACT – Asthma Control Test (GSK)
2. ATAQ (20 item questionnaire)
3. ACQ (7 item questionnaire)
4. TRACK (AZ and American Academy of Peds)
5. AirQScore.com (AZ)

# Asthma Control Test (ACT)

- Gives a numerical score to determine if asthma is well controlled
- Provides a snapshot of how well control has been over the last 4 weeks
- Helps provider know if symptoms go unreported
- Recognized by the NIH
- If possible, allow the child to answer the questions as much as possible

Enter Name: \_\_\_\_\_ Today's Date: \_\_\_\_\_  
 Enter Address: \_\_\_\_\_ Patient's Name: \_\_\_\_\_  
 Enter City/State/Zip: \_\_\_\_\_

### Childhood Asthma Control Test for children 4 to 11 years.

This test will provide a score that may help the doctor determine if your child's asthma treatment plan is working or if it might be time for a change.

**How to take the Childhood Asthma Control Test**

Step 1 Let your child respond to the first four questions (1 to 4). If your child needs help reading or understanding the question, you may help, but let your child select the response. Complete the remaining three questions (5 to 7) on your own and without letting your child's response influence your answers. There are no right or wrong answers.

Step 2 Write the number of each answer in the score box provided.





Step 3 Add up each score box for the total.

Step 4 Take the test to the doctor to talk about your child's total score.





**19 or less** If your child's score is 19 or less, it may be a sign that your child's asthma is not controlled as well as it could be. Bring this test to the doctor to talk about the results.

**Have your child complete these questions.**





1. How is your asthma today?

 0 Very bad	 1 Bad	 2 Good	 3 Very good	SCORE <input type="text"/>
--	---	--	---	----------------------------





2. How much of a problem is your asthma when you run, exercise or play sports?

 0 It's a big problem, I can't do what I want to do.	 1 It's a problem and I don't like it.	 2 It's a little problem but it's okay.	 3 It's not a problem.	<input type="text"/>
---	---	--	---	----------------------

3. Do you cough because of your asthma?







 0 Yes, all of the time.	 1 Yes, most of the time.	 2 Yes, some of the time.	 3 No, none of the time.	<input type="text"/>
---	--	--	---	----------------------

4. Do you wake up during the night because of your asthma?







 0 Yes, all of the time.	 1 Yes, most of the time.	 2 Yes, some of the time.	 3 No, none of the time.	<input type="text"/>
---	--	--	---	----------------------

**Please complete the following questions on your own.**







5. During the last 4 weeks, how many days did your child have any daytime asthma symptoms?

 5 Not at all	 4 1-3 days	 3 4-10 days	 2 11-18 days	 1 19-24 days	 0 Everyday	<input type="text"/>
--	--	---	--	--	--	----------------------

6. During the last 4 weeks, how many days did your child wheeze during the day because of asthma?

 5 Not at all	 4 1-3 days	 3 4-10 days	 2 11-18 days	 1 19-24 days	 0 Everyday	<input type="text"/>
--	--	---	--	--	--	----------------------

7. During the last 4 weeks, how many days did your child wake up during the night because of asthma?

 5 Not at all	 4 1-3 days	 3 4-10 days	 2 11-18 days	 1 19-24 days	 0 Everyday	<input type="text"/>
--	--	---	--	--	--	----------------------

TOTAL

# Asthma Control Test (ACT)

Score of 19 or less, asthma may not be as in control as it could be

Higher the score = better control

1= all the time – 5 = not at all

Scores can range from 5 (1 for each answer) to 25 (5 for each answer)

FOR PATIENTS:

**Take the Asthma Control Test™ (ACT) for people 12 yrs and older.**

Know your score. Share your results with your doctor.

Write the number of each answer in the score box provided.  
Please give this test to the study coordinator.

1. In the past 4 weeks, how much of the time did your asthma keep you from getting as much done at work, school or at home?	All of the time	1	Most of the time	2	Some of the time	3	A little of the time	4	None of the time	5	SCORE	<input type="text"/>
2. During the past 4 weeks, how often have you had shortness of breath?	More than once a day	1	Once a day	2	3 to 8 times a week	3	Once or twice a week	4	Not at all	5		<input type="text"/>
3. During the past 4 weeks, how often did your asthma symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) wake you up at night or earlier than usual in the morning?	4 or more nights a week	1	2 or 3 nights a week	2	Once a week	3	Once or twice	4	Not at all	5		<input type="text"/>
4. During the past 4 weeks, how often have you used your rescue inhaler or nebulizer medication (such as albuterol)?	3 or more times per day	1	1 or 2 times per day	2	2 or 3 times per week	3	Once a week or less	4	Not at all	5		<input type="text"/>
5. How would you rate your asthma control during the past 4 weeks?	Not controlled at all	1	Poorly controlled	2	Somewhat controlled	3	Well controlled	4	Completely controlled	5		<input type="text"/>
											TOTAL	<input type="text"/>

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## Asthma Control Test Scoring = 25 is maximum score. High Is Good.

**Score 15 or lower**

- Very poorly controlled

**Score 19 or lower**

- Not well controlled
- There is a 70-84% chance that this patient's asthma is not under control

**Score 20 or more**

- Well controlled
- 3 out of 4 patients are under control



# Test for Respiratory and Asthma Control in Kids

TRACK—for children 0-4 years of age:

1. Validated
2. Includes risk
3. Easy to administer, caregiver completed
4. Control status correctly classified in 78-81% of cases
5. Score of 80 or more means breathing problems under control
6. 5 questions total – 3 last four weeks  
    1 last three months  
    1 last 12 months

**TRACK™** Test for Respiratory and Asthma Control in Kids  
For kids under 5 years of age

**What is TRACK?**  
TRACK is a simple 5-question test that can help assess respiratory and asthma control in patients between the ages of 12 months and 5 years. It addresses both the risk and impairment domains outlined in the NHLBI/NAEPP-3 Asthma Guidelines. TRACK is designed to be used by caregivers and interpreted by medical professionals.

**Who should use TRACK?**  
This simple test can help determine if your child's breathing problems are not under control. The test was designed for children who

- Are under 5 years of age AND
- Have a history of 2 or more episodes of wheezing, shortness of breath, or cough lasting more than 24 hours AND
- Have been previously prescribed bronchodilator medicines, also known as quick-relief medications (eg, albuterol, Ventolin®, Proventil®, Maxair®, ProAir®, or Xopenex®) for respiratory problems OR have been diagnosed with asthma

NOTE: TRACK is an assessment of patients with suboptimal respiratory or asthma control; this is NOT a diagnostic test.

**How to take TRACK**

Step 1: Make a check mark in the box below each of your selected answers.  
Step 2: Write the number of your answer in the score box provided to the right of each question.  
Step 3: Add up the numbers in the individual score boxes to obtain your child's total score.  
Step 4: Take the test to your child's health care provider to talk about your child's total TRACK score.

Question	Options	Score
1. During the past 4 weeks, how often was your child bothered by breathing problems, such as wheezing, coughing, or shortness of breath?	Not at all (20), Once or twice (15), Once every week (10), 2 or 3 times a week (5), 4 or more times a week (0)	
2. During the past 4 weeks, how often did your child's breathing problems (wheezing, coughing, shortness of breath) wake him or her up at night?	Not at all (20), Once or twice (15), Once every week (10), 2 or 3 times a week (5), 4 or more times a week (0)	
3. During the past 4 weeks, to what extent did your child's breathing problems, such as wheezing, coughing, or shortness of breath, interfere with his or her ability to play, go to school, or engage in usual activities that a child should be doing at his or her age?	Not at all (20), Slightly (15), Moderately (10), Quite a lot (5), Extremely (0)	
4. During the past 3 months, how often did you need to treat your child's breathing problems (wheezing, coughing, shortness of breath) with quick-relief medications (albuterol, Ventolin®, Proventil®, Maxair®, ProAir®, Xopenex®, or Primatene® Mist)?	Not at all (20), Once or twice (15), Once every week (10), 2 or 3 times a week (5), 4 or more times a week (0)	
5. During the past 12 months, how often did your child need to take oral corticosteroids (prednisone, prednisolone, Orapred®, Prelone®, or Decadron®) for breathing problems not controlled by other medications?	Never (20), Once (15), Twice (10), 3 times (5), 4 or more times (0)	
Total		

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Murphy, Kevin R, et al., Test for Respiratory and Asthma Control in Kids (TRACK): A caregiver-completed questionnaire for preschool-aged children, *Journal of Allergy and Clinical Immunology*, Volume 123, Issue 4, 833-839.e9



# Questions



# Our Vision

A World Free of Lung Disease

