



ADVANCING INTEGRATED HEALTHCARE

Asthma Essentials ECHO®

Session Topic: Asthma Clinical Guidelines

Facilitator: Pat Flanagan, MD

Faculty Presenter(s): Mansi James, DO

Case Presenter(s): Cynthia Bliss, MD and Elizabeth Lange, MD

Date & Time: 10/12/2022 730AM

PLEASE NOTE: Project ECHO case consultations do not create or otherwise establish a provider-patient relationship between any clinician and any patient whose case is being presented in a project ECHO setting

Care Transformation Collaborative of RI

Welcome

- The didactic portion of this session will be recorded for the educational and quality improvement purposes

Please remember...

- Mute your microphone when not speaking
- Turn on video when possible



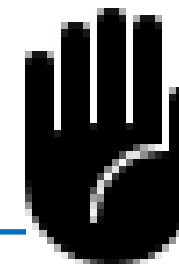
Video Meeting Etiquette



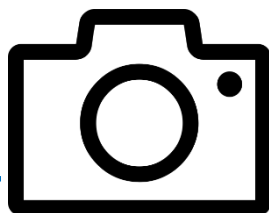
Mute your microphone when not talking.



Limit distractions as best as possible.



Use reactions & the raise hand feature.



Engage and turn your camera on if you are able.



Use the chat to ask introduce yourself, ask questions and share resources.



Engage - ask questions, offer feedback, provide support.

Agenda

Time	Topic	Presenter
7:30 AM – 7:35 AM	Welcome	Sue Dettling
7:35 AM – 8:00AM	What is ECHO/Overview of Asthma Essentials	Sue Dettling
8:00AM	Faculty Introduction	Pat Flanagan, MD
8:00AM – 8:30AM	Didactic: Asthma Clinical Guidelines	Mansi James, DO
8:30 AM – 8:55AM	Case Presentation & Discussion	Cynthia Bliss, MD and Elizabeth Lange, MD/ Team
8:55 AM – 9:00AM	Wrap up; Evaluation; Announcements	Michelle Mooney

Evaluation & CME

- Please provide us your feedback!
- Evaluation/Credit Request Form: <https://www.surveymonkey.com/r/M9VJ8LT>
 - Please request CME credits when filling out the evaluation at the end of the meeting.

The AAFP has reviewed 'Advancing Community-Oriented Comprehensive Primary Care Through Improved Care Delivery Design and Community Health,' and deemed it acceptable for AAFP credit. Term of approval is from 03/18/2022 to 03/17/2023. Physicians should claim only the credit commensurate with the extent of their participation in the activity. NPs and RNs can also receive credit through AAFP's partnership with the American Nurses Credentialing Center (ANCC) and the American Academy of Nurse Practitioners Certification Board (AANPCB).

Project Introductions



ADVANCING INTEGRATED HEALTHCARE



TUFTS
Health Plan

Asthma Planning Team



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Asthma Program
Manager, RIDOH



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**Sue Dettling,
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**Michelle Mooney,
MPA**
Program Coordinator,
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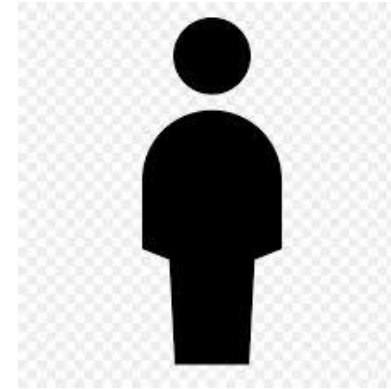
Asthma Planning Team



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AE-C, FAARC**
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Certified Asthma
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Asthma Planning Team



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Pharmacist Neighborhood
Health Plan of RI



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Mansi James, DO
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Asthma Planning Team



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Epidemiology Practice
Hassenfeld Child Health
Innovation
Institute Affiliated Scholar



**Linda Mendonça,
DNP, RN, PHNA-BC,
NCSN, FNASN**
State School Nurse
Consultant, RIDOH

Curriculum & Schedule

Topic & Presenter(s)	Proposed Date & Time
Session 1: Asthma Clinical Guidelines <i>Dr. Mansi James, DO Allergy/Asthma</i>	Oct 12 th , 2022 @ 730am
Session 2: Use of Asthma Medications/Asthma Action Plans <i>Lillian Nieves, PharmD</i>	Nov 09 th , 2022 @ 730am
Session 3: Assessing and Managing Environmental Triggers <i>Jim Ginda, MA, RRT, AE-C, FAARC</i>	Dec 14 th , 2022 @ 730am
Session 4: Working with Community Partners <i>Daniel Fitzgerald, MPH, ICPS and Ashley Fogarty, MPH</i>	Jan 11 th , 2023 @ 730am
Session 5: Patient and Family Education <i>June Tourangeau, Certified Asthma Educator</i>	Feb 08 th , 2023 @ 730am
Session 6: Managing Asthma Exacerbations <i>Dr. Andrew Foderaro, MD, Pulmonologist</i>	Mar 15 th , 2023 @ 730am

Project Goals

- Creates a virtual learning community and encourages participants to engage in an all teach, all learn model
- Through didactic and case presentations learn about best practices and evidence-based care for patients
- Acquire and enhance skills, competencies and best practices in asthma care
- Collaboration, support and ongoing learning with subject-matter experts & health care staff

What does an ECHO session look like?

- Introductions/Housekeeping (5 min)
- Lecture (followed by short Q&A) (15-20 min)
- De-identified Case Discussion (25 min)
 - Case Presentation by spoke or faculty
 - Facilitator summarizes case; asks for clarifying questions
 - Recommendations/Discussion
 - Facilitator summarizes recommendations
- Wrap-up (5 min)

ECHO sessions are smaller than the typical webinar to allow for more active participation. Much of the learning comes from the discussions



ADVANCING INTEGRATED HEALTHCARE

Asthma Essentials ECHO®

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Care Transformation Collaborative of RI

Welcome

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- Please turn on your video
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Introduce Yourself



- Please mute your microphone when not speaking

Microphones



- Introduction
- Lecture
- Case/Discussion
- Close

Agenda



Today's Faculty

Dr. Mansi James, board certified Allergist/Immunologist, joined Providence Community Health Center's Asthma and Allergy clinic in 2020. Dr. James completed a two-year ACGME-accredited Allergy and Immunology Fellowship from Baylor College of Medicine in Texas, where she served as co-Chief Fellow and gained in-depth clinical experience in allergic and asthmatic diseases, congenital and acquired immunodeficiency, and systemic inflammatory and immunologic disorders.

Dr. James completed her Pediatric residency at Baystate Medical Center in Massachusetts following her graduation from Lake Erie College of Osteopathic Medicine in Bradenton, Florida.

Disclosures

Session presenters have no financial relationships with a commercial entity producing healthcare-related products used on or by patients.

If CME credits are offered, all relevant financial relationships of those on the session planning committee have been disclosed and, if necessary, mitigated.

Learning Objectives

- Be able to define asthma and identify high risk patients
- Understand 2020 Focused Updates to the NHLBI Asthma Management Guidelines
- Ensure providers understand and reflect the latest scientific evidence in treatment decisions

Defining Asthma

- Most common chronic non-communicable disease, affecting over 260 million people globally
- Heterogenous
 - wheeze, shortness of breath, chest tightness, and cough that vary over time and in intensity, together with variable expiratory airflow limitations
 - People with asthma often have periods of worsening symptoms and worsening airway obstruction, aka exacerbations, that can be fatal
- Most of the morbidity and mortality associated with asthma is preventable, particularly with use of inhaled corticosteroids

Is it Asthma? Clinical Attributes

Confirmation of the diagnosis is important:

- 12-30% of subjects assumed to have severe asthma do not have the correct diagnosis
- 25-35% with a diagnosis of asthma in primary care cannot be confirmed as having asthma

Perform a careful clinical history and physical exam to exclude asthma mimickers:

- Ask about dyspnea (at rest and in relation to exercise)
- Ask about cough, wheeze, chest tightness, nocturnal awakenings
- Ask about exacerbating factors, environmental and occupational triggers

Perform spirometry with flow-volume loops before and after bronchodilator to assess for variable expiratory airflow limitation

ERS/ATS guidelines on definition, evaluation and treatment of severe asthma. Eur Respir J. 2014 Apr;43(4):1216.

Indications for spirometry

- Evaluation of patients presenting with dyspnea
- Evaluating disease severity and monitoring response to treatment



Phenotypes in Children

Transient wheeze

episodic wheezing before and up to 3 years of age

Persistent wheeze

symptoms start before age 3 and continued beyond 6

Late onset wheeze

symptoms began after 3 years of age

Identification and application of risk factors help further identify patients at risk for childhood asthma development

Classic Asthma Phenotypes

Allergic Asthma – environmental allergies trigger the asthma

- Most common, occurs in 40-50% of patients with asthma
- Tests – allergy testing, CBC w/ diff (eosinophil (eos) count), total IgE, FeNO
- Tx – control allergies, decrease exposures, IT, biologics

Exercise Induced Asthma – flare up with exercise

- Detailed history about when symptoms occur most frequently or consistently
- Test – exercise test (eg running on a treadmill or clinic hallway) and checking lung function after to determine if exercise induces a drop in lung function
- Tx – depends on severity, as needed SABA most common

Aspirin Sensitive Asthma – asthma will flare with aspirin or NSAID use

- Less common, may also have chronic rhinitis and/or nasal polyps
- Tests – CBC w/ diff (eos count)
- Tx – leukotriene modifiers, polyp removal, biologics

Neutrophilic Asthma

- most common among those with severe asthma
- Tests – sputum sample
- Tx – consider addition of macrolides

Exercise Induced Bronchospasm

- EIB is a bronchospastic event that is caused by a loss of heat, water, or both from the lung during exercise because of hyperventilation of air that is cooler and dryer than that of the respiratory tree
- EIB usually occurs during or minutes after vigorous activity, reaches its peak 5–10 minutes after stopping the activity, and resolves in another 20–30 minutes.
- The Expert Panel recommends that a history of cough, shortness of breath, chest pain or tightness, wheezing, or endurance problems during exercise suggests EIB.

Exercise Induced Bronchospasm

- An exercise challenge, useful for establishing the diagnosis, can be performed in a formal laboratory setting or as a free-run challenge sufficiently strenuous to increase the baseline heart rate to 80 percent of maximum for 4–6 minutes.
- A 15-percent decrease in PEF or FEV1 (with measurements taken before and after exercise at 5-minute intervals for 20–30 minutes) is compatible with EIB
- The Expert Panel recommends that teachers and coaches be notified that a child has EIB, that the child should be able to participate in activities, and that the child may need inhaled medication before activity

Exercise Induced Bronchospasm

- Inhaled beta2-agonists will prevent EIB in more than 80 percent of patients (Evidence A).
- SABA used shortly before exercise (or as close to exercise as possible) may be helpful for 2–3 hours.

The Asthma Predictive Index Predicts Persistent Asthma

Major criteria

- Parent with asthma
- Physician diagnosed atopic dermatitis
- Sensitization to ≥ 1 aeroallergen

Minor criteria

- Wheezing unrelated to colds
- Blood eosinophils $>4\%$
- Sensitization to food allergens

2020 Asthma Guidelines/Updates- Priority Topics

1. Inhaled Corticosteroids
2. Fractional exhaled nitric oxide (FeNO) in diagnosis, medication selection and monitoring of treatment response in asthma
3. Remediation of indoor allergens (house dust mites/pets) in asthma management
4. Long-acting antimuscarinic agents (LAMA) in asthma management as add-ons to inhaled corticosteroids
5. Immunotherapy and the management of asthma
6. Bronchial thermoplasty (BT) in adult severe asthma

Source: National Heart, Lung, and Blood Institute; National Institutes of Health; U.S. Department of Health and Human Services.

INHALED CORTICOSTEROIDS

0–4 years with **recurrent wheezing** triggered by respiratory tract infections and no wheezing between infections

- Start a short course of daily ICS at the onset of a respiratory tract infection with as-needed SABA for quick-relief therapy

0-4 Years

AGES 0-4 YEARS: STEPWISE APPROACH FOR MANAGEMENT OF ASTHMA

	Intermittent Asthma	Management of Persistent Asthma in Individuals Ages 0-4 Years				
Treatment	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
Preferred	PRN SABA and At the start of RTI: Add short course daily ICS▲	Daily low-dose ICS and PRN SABA	Daily medium-dose ICS and PRN SABA	Daily medium-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA + oral systemic corticosteroid and PRN SABA
Alternative		Daily montelukast* or Cromolyn,* and PRN SABA		Daily medium-dose ICS + montelukast* and PRN SABA	Daily high-dose ICS + montelukast* and PRN SABA	Daily high-dose ICS + montelukast* + oral systemic corticosteroid and PRN SABA
			For children age 4 years only, see Step 3 and Step 4 on Management of Persistent Asthma in Individuals Ages 5-11 Years diagram.			

INHALED CORTICOSTEROIDS

≥ 4 years with **mild to moderate persistent asthma** who are likely to be adherent to daily ICS treatment

- Recommends against a short-term increase in the ICS dose for increased symptoms or decreased peak flow.

≥ 4 years with **moderate to severe persistent asthma**

- Recommends **ICS-formoterol** in a single inhaler used as both daily controller and reliever therapy “SMART” (compared to Higher-dose ICS as daily controller therapy and SABA for quick-relief therapy, or Same-dose ICS-LABA as daily controller therapy and SABA for quick-relief therapy)

5-11 years

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
Preferred	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
Alternative		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**▲	

INHALED CORTICOSTEROIDS

≥12 years with **mild persistent asthma**

- recommends either daily low-dose ICS and as-needed SABA for quick-relief therapy or as-needed ICS and SABA used concomitantly.

≥12 years with **moderate to severe persistent asthma**

- recommends **ICS-formoterol** in a single inhaler used as both daily controller and reliever therapy (compared to higher-dose ICS-LABA as daily controller therapy and SABA for quick-relief therapy)

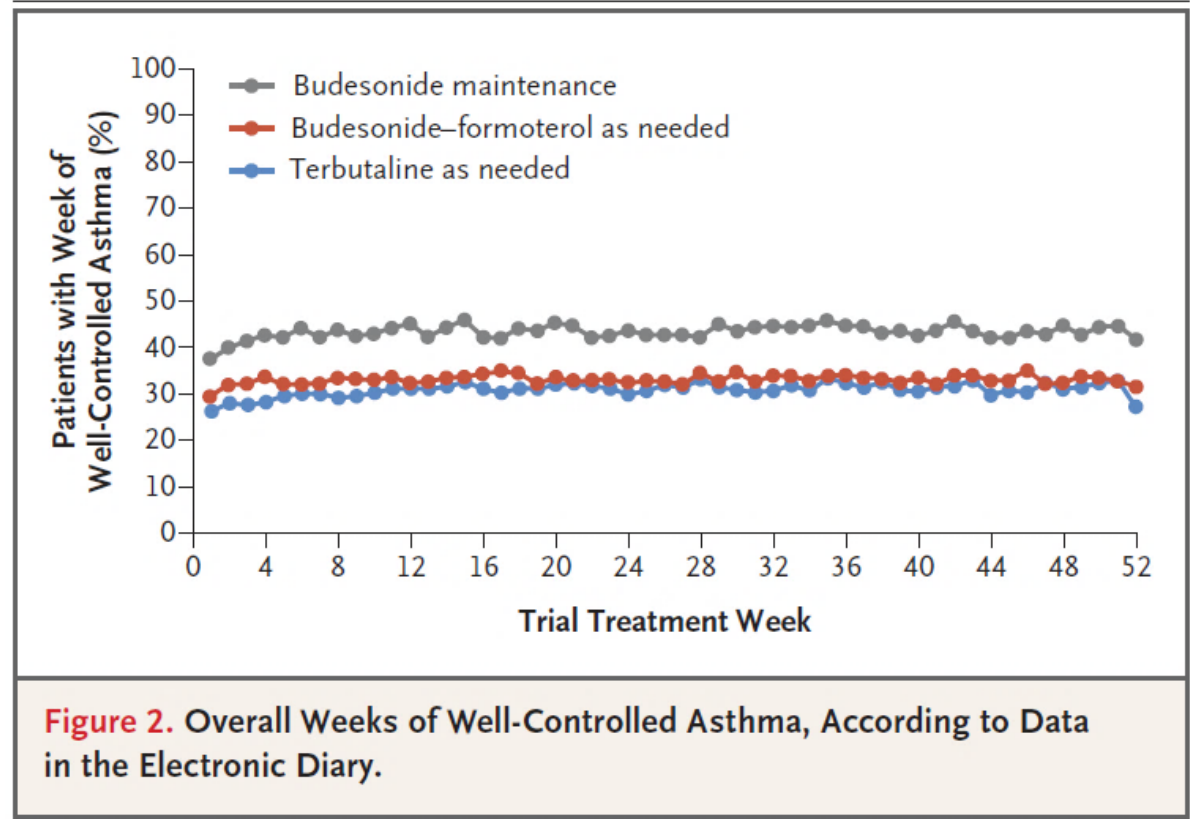
≥12 years

AGES 12+ YEARS: STEPWISE APPROACH FOR MANAGEMENT OF ASTHMA

	Intermittent Asthma	Management of Persistent Asthma in Individuals Ages 12+ Years				
Treatment	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6 [■]
Preferred	PRN SABA	Daily low-dose ICS and PRN SABA or PRN concomitant ICS and SABA▲	Daily and PRN combination low-dose ICS-formoterol▲	Daily and PRN combination medium-dose ICS-formoterol▲	Daily medium-high dose ICS-LABA + LAMA and PRN SABA▲	Daily high-dose ICS-LABA + oral systemic corticosteroids + PRN SABA
Alternative		Daily LTRA* and PRN SABA or Cromolyn,* or Nedocromil,* or Zileuton,* or Theophylline,* and PRN SABA	Daily medium-dose ICS and PRN SABA or Daily low-dose ICS-LABA, or daily low-dose ICS + LAMA,▲ or daily low-dose ICS + LTRA,* and PRN SABA or Daily low-dose ICS + Theophylline* or Zileuton,* and PRN SABA	Daily medium-dose ICS-LABA or daily medium-dose ICS + LAMA, and PRN SABA▲ or Daily medium-dose ICS + LTRA,* or daily medium-dose ICS + Theophylline,* or daily medium-dose ICS + Zileuton,* and PRN SABA	Daily medium-high dose ICS-LABA or daily high-dose ICS + LTRA,* 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 adding Asthma Biologics (e.g., anti-IgE, anti-IL5, anti-IL5R, anti-IL4/13)**	

Combination Budesonide-Formoterol as Needed in Mild Asthma (O'Byrne et al., 2018)

- 2018 NEJM study:
 - Patients ≥ 12 years.
 - On short acting bronchodilators or leukotriene inhibitor or low dose inhaled glucocorticoids.
- Compared terbutaline, budesonide-formoterol as needed, and budesonide maintenance.
- Budesonide-formoterol was superior to terbutaline for asthma symptom control and reducing risk of asthma exacerbation.
- Budesonide-formoterol as needed was inferior to budesonide alone in maintaining asthma control but similar in reducing risk of asthma exacerbation.



O'Byrne, P. M., FitzGerald, J. M., Bateman, E. D., Barnes, P. J., Zhong, N., Keen, C., . . . Reddel, H. K. (2018). Inhaled Combined Budesonide-Formoterol as Needed in Mild Asthma. *N Engl J Med*, 378(20), 1865-1876. doi:10.1056/NEJMoa1715274

Q&A

Why is this preferred?

- Because using low dose ICS-formoterol as reliever reduces the risk of severe exacerbations compared with regimens with SABA as reliever, with similar symptom control

How is it used?

- ICS-formoterol should be administered as maintenance therapy with 1-2 puffs once or twice daily and 1-2 puffs as needed for asthma symptoms
- Maximum number of puffs per day is 8 (36mcg formoterol) for kids 4-11 years, and 12 puffs (54mcg formoterol) in those greater than 12 years

When should it not be used?

- ICS-formoterol should not be used as the reliever in patients prescribed a different ICS-LABA for their controller therapy

The Argument

ICS are highly effective in mild asthma, but patients are often poorly adherent

Even occasional short courses of OCS are associated with increased risk

- Osteoporosis, diabetes, cataract etc (Price, J Asthma Allergy 2018)

Phenotyping is not needed for treatment with as-needed ICS-formoterol

- No significant difference in treatment effect compared with as-needed SABA or daily ICS with high vs low baseline eosinophils or FeNO (Beasley NEJMed 2019; Hardy Lancet 2019)

Severe exacerbations can occur in mild asthma and are often unpredictable

- Viral infections, allergen exposure, air pollution, stress



EPR-3 Classifying Asthma Severity by Age

Components of Severity		Intermittent			Persistent								
					Mild			Moderate			Severe		
Age in years		0-4	5-11	≥12	0-4	5-11	≥12	0-4	5-11	≥12	0-4	5-11	≥12
Impairment	Daytime symptoms	≤2 days/week			≥2 days/week but not daily			daily			Throughout the day		
	Nocturnal symptoms	0	≤2 x/mo		1-2x/mo	3-4x/mo		3-4x/mo	≥1 x/wk		≥2x/wk	Often, 7x/wk	
	SABA use	≤2 days/wk			≥2 days/wk			daily			Several times/day		
	Interferes with normal activity	none			minor			some			extremely		
	PFTs	FEV ₁	n/a	>80%		n/a	>80%		n/a	60-80%		n/a	<60%
FEV ₁ /FVC		>85%		NI	>80%		NI	75-80%		↓ by 5%	<75%		↓ by >5%
Risk	Exacerbations requiring systemic steroids	0-1x/yr			≥2 x/6 mos or 4x/yr + Risk factors								
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

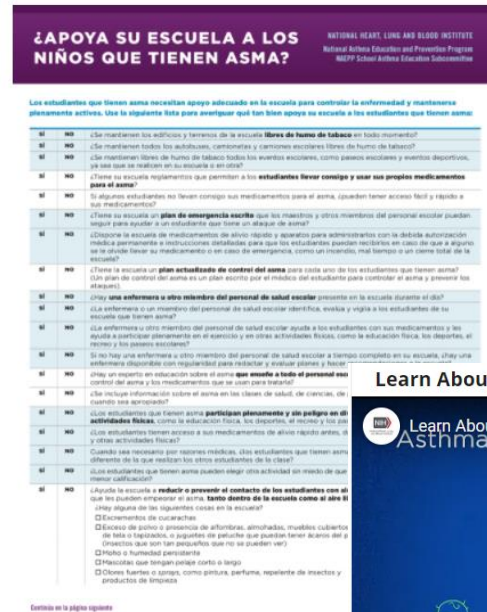
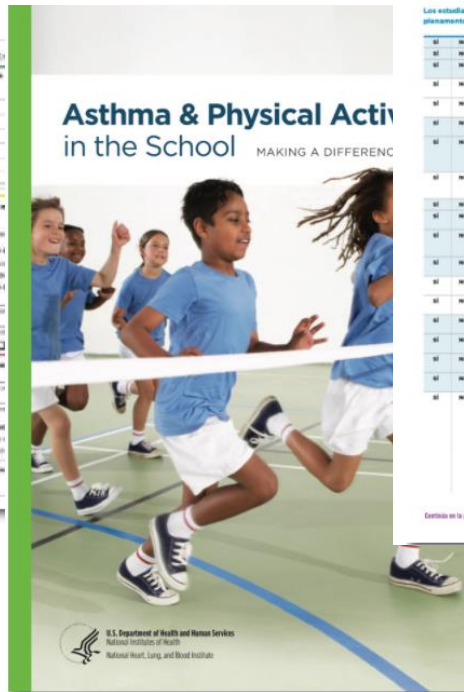
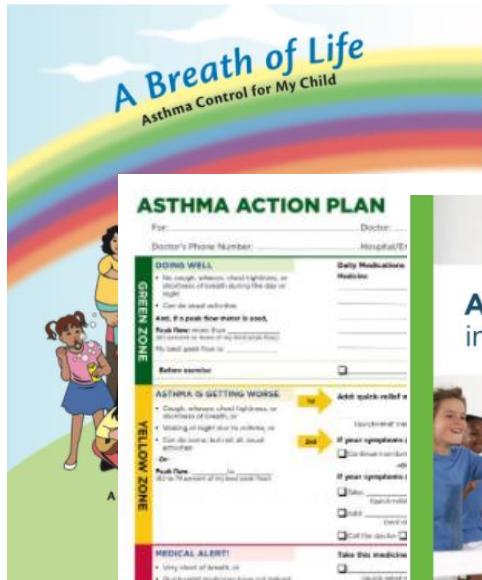
Daily Dose	0-4 years of age			5-11 years of age			≥12 years of age		
	Low	Medium*	High*	Low	Medium*	High*	Low	Medium*	High*
MEDICATION									
Beclomethasone MDI[†]	N/A	N/A	N/A	80-160 mcg	>160-320 mcg	>320 mcg	80-240 mcg	>240-480 mcg	>480 mcg
40 mcg/puff				1-2 puffs 2x/day	3-4 puffs 2x/day		1-3 puffs 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
Budesonide DPI[†]	N/A	N/A	N/A	180-360 mcg	>360-720 mcg	>720 mcg	180-540 mcg	>540-1,080 mcg	>1,080 mcg
90 mcg/inhalation				1-2 inh [†] 2x/day	3-4 inh [†] 2x/day		1-3 inh [†] 2x/day		
180 mcg/ inhalation					2 inh [†] 2x/day	≥3 inh [†] 2x/day	1 inh [†] am, 2 inh [†] pm	2-3 inh [†] 2x/day	≥4 inh [†] 2x/day
Budesonide Nebules	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 [†] /day			1 neb [†] 2x/day					
0.5 mg	1 neb [†] /day	2 nebs [†] /day	3 nebs [†] /day	1 neb [†] /day	1 neb [†] 2x/day				
1.0 mg		1 neb [†] /day	2 nebs [†] /day		1 neb [†] /day	1 neb [†] 2x/day			
Ciclesonide MDI[†]	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
Flunisolide MDI[†]	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

Source: National Heart, Lung, and Blood Institute; National Institutes of Health; U.S. Department of Health and Human Services.

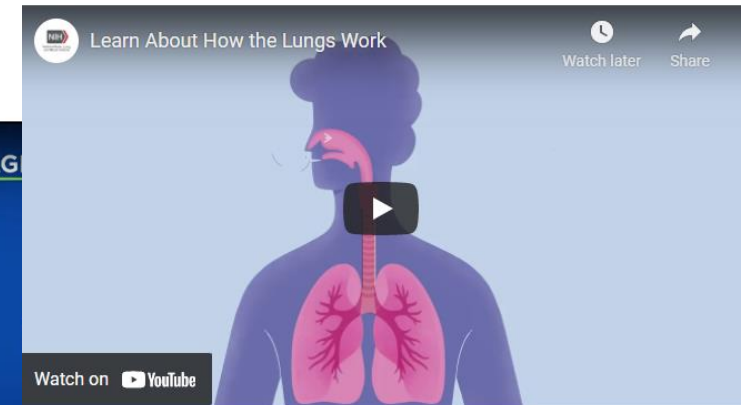
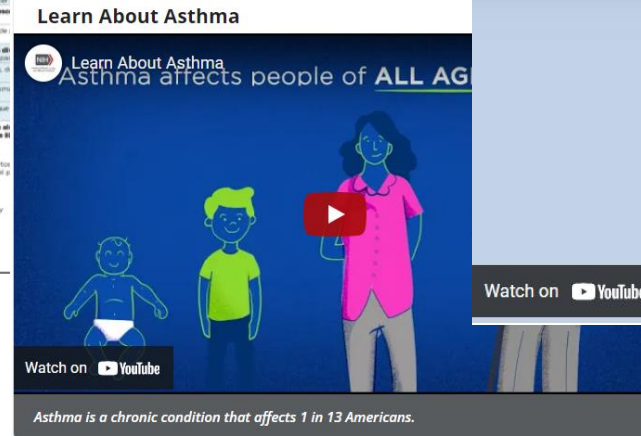
Daily Dose	0-4 years of age			5-11 years of age			≥12 years of age		
	Low	Medium*	High*	Low	Medium*	High*	Low	Medium*	High*
MEDICATION									
Fluticasone MDI[†]	176 mcg	>176-352 mcg	>352 mcg	88-176 mcg	>176-352 mcg	>352 mcg	88-264 mcg	>264-440 mcg	>440 mcg
44 mcg/puff	2 puffs 2x/day	3-4 puffs 2x/day		1-2 puffs 2x/day	3-4 puffs 2x/day		1-3 puffs 2x/day		
110 mcg/puff		1 puff 2x/day	≥2 puffs 2x/day		1 puff 2x/day	≥2 puffs 2x/day		2 puffs 2x/day	3 puffs 2x/day
220 mcg/puff								1 puffs 2x/day	≥2 puffs 2x/day
Fluticasone DPI[†]	N/A	N/A	N/A	100-200 mcg	>200-400 mcg	>400 mcg	100-300 mcg	>300-500 mcg	>500 mcg
50 mcg/inhalation				1-2 inh [†] 2x/day	3-4 inh [†] 2x/day		1-3 inh [†] 2x/day		
100 mcg/inhalation				1 inh [†] 2x/day	2 inh [†] 2x/day	>2 inh [†] 2x/day		2 inh [†] 2x/day	≥3 inh [†] 2x/day
250 mcg/inhalation						1 inh [†] 2x/day		1 inh [†] 2x/day	≥2 inh [†] 2x/day
Mometasone DPI[†]	N/A	N/A	N/A	110 mcg	220-440 mcg	>440 mcg	110-220 mcg	>220-440 mcg	>440 mcg
110 mcg/inhalation				1 inh [†] /day	1-2 inh [†] 2x/day	≥3 inh [†] 2x/day	1-2 inh [†] pm	3-4 inh [†] pm or 2 inh [†] 2x/day	≥3 inh [†] 2x/day
220 mcg/inhalation					1-2 inh [†] /day	≥3 inh [†] divided in 2 doses	1 inh [†] pm	1 inh [†] 2x/day or 2 inh [†] pm	≥3 inh [†] divided in 2 doses

Source: National Heart, Lung, and Blood Institute; National Institutes of Health; U.S. Department of Health and Human Services.

Parent/Caregiver Resources



- Downloadable
- Printables
- Educational videos
- Social media links



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FOR MORE INFORMATION ABOUT THE 2020 ASTHMA GUIDELINES VISIT
nhlbi.nih.gov/AsthmaGuidelines

Questions?



ADVANCING INTEGRATED HEALTHCARE

Asthma Essentials ECHO® Case Presentation

PLEASE NOTE: Project ECHO case consultations do not create or otherwise establish a provider-patient relationship between any clinician and any patient whose case is being presented in a project ECHO setting

Care Transformation Collaborative of RI

Questions? And Contact information

- Didactic:
 - Mansi James, DO: MJames@Providencechc.org
- Case Presentation:
 - Beth Lange, MD: elizlange@cox.net
 - Cynthia Bliss, MD: cbliss@coastalmedical.com

Announcements & Reminders

Next Session Date:	November 9 th , 2022 @ 7:30am – 8:30am
Topic:	Use of Asthma Medications/Asthma Action Plans
Presenter:	Lillian Nieves, PharmD
Case Presenter:	Sarah Fessler, MD, East Bay Community Action Program

Evaluation & CME

- Please provide us your feedback!
- Evaluation/Credit Request Form: <https://www.surveymonkey.com/r/M9VJ8LT>
 - Please request CME credits when filling out the evaluation at the end of the meeting.

The AAFP has reviewed 'Advancing Community-Oriented Comprehensive Primary Care Through Improved Care Delivery Design and Community Health,' and deemed it acceptable for AAFP credit. Term of approval is from 03/18/2022 to 03/17/2023. Physicians should claim only the credit commensurate with the extent of their participation in the activity. NPs and RNs can also receive credit through AAFP's partnership with the American Nurses Credentialing Center (ANCC) and the American Academy of Nurse Practitioners Certification Board (AANPCB).