

2020 FOCUSED UPDATES TO THE ASTHMA MANAGEMENT GUIDELINES: THROUGH A PUBLIC HEALTH LENS

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OBJECTIVES

- Insurance
- Schools
- Environmental controls
- Advocacy



INSURANCE



PREFERRED ICS

2016	October 2018	October 2019	April 2020	July 2020	October 2020	February 2021	July 2021
Aerospan	ArmonAir RespiClick	Pulmicort Respules	QVAR Redihaler	Pulmicort Respules	Flovent MDI	Budesonide Suspension	Budesonide Suspension
Budesonide Suspension	Budesonide Suspension	Flovent MDI		Flovent MDI	Asmanex Twisthaler	Flovent MDI	Asmanex Twisthaler
QVAR MDI	Pulmicort Flexhaler	Asmanex Twisthaler		ArmonAir RespiClick		Asmanex Twisthaler	Flovent MDI
	QVAR Redihaler			Pulmicort Flexhaler			
				QVAR Redihaler			

PREFERRED ICS/LABA

2016	October 2018	October 2019	April 2020	July 2020	October 2020	February 2021	July 2021
Dulera 100/5 200/5	AirDuo RespiClick	Advair HFA	AirDuo RespiClick	AirDuo RespiClick	Advair HFA	Advair HFA	Advair Diskus
Symbicort 160/4.5	Symbicort 80/4.5	Fluticasone- Salmeterol Diskus	Fluticasone -Salmeterol Diskus	Fluticasone -Salmeterol Diskus	Dulera all strengths	Advair Diskus	Advair HFA
		Wixela Inhub	Wixela Inhub	Wixela Inhub	Symbicort 80/4.5 160/4.5	Dulera 50/5 100/5 200/5	Dulera 50/5 100/5 200/5
		*Dulera 100/5	*Dulera 50/5 100/5 200/5	Dulera all strengths		Symbicort 80/4.5 160/4.5	Symbicort 80/4.5 160/4.5
		*Symbicort 80/4.5	Symbicort 80/4.5 160/4.5	Symbicort 80/4.5 160/4.5			

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**▲	

5 to 11	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	
Green	None	Low dose ICS	Daily low dose ICS + LABA	Daily Med dose ICS + LABA	Daily High dose ICS + LABA**	Daily High dose ICS + LABA + OCS**	
Yellow	2 puffs SABA every 20 minutes for up to 3 treatments	2 puffs SABA every 20 minutes for up to 3 treatments	1-2 puffs Low dose ICS + LABA PRN up to 8 puffs TOTAL DAILY (include controller use)*	1-2 puffs Med dose ICS + LABA PRN up to 8 puffs TOTAL DAILY (include controller use)*	2 puffs SABA every 20 minutes for up to 3 treatments	2 puffs SABA every 20 minutes for up to 3 treatments	
Red							
			*Steps 3-4: 5-11 years: MAX 36 mcg formoterol;		** Step 5-6: Consider Biologics		
* see age 12 and older-- GINA ok to prn ICS/LABA			Consult specialist Step 4 or higher				
12 and older	Step 1	Step 2A	Step 2B^	Step 3	Step 4	Step 5	Step 6
Green	NONE	Daily ICS	NONE	Daily low dose ICS + LABA	Daily Med dose ICS + LABA	Daily High dose ICS + LABA + LAMA**	Daily High dose ICS + LABA + OCS**
Yellow	2 puffs SABA every 20 minutes for up to 3 treatments	2 puffs SABA every 20 minutes for up to 3 treatments	2-4 puffs albuterol + 80-250 mcg beclomethasone every four hour PRN	1-2 puffs Low dose ICS + LABA PRN up to 12 puffs TOTAL DAILY (include controller use)*	1-2 puffs Med dose ICS + LABA PRN up to 12 puffs TOTAL DAILY (include controller use)*	2 puffs SABA every 20 minutes for up to 3 treatments	2 puffs SABA every 20 minutes for up to 3 treatments
Red							
			*Steps 3-4: 12 and older: MAX 54 mcg formoterol		** Step 5-6: Consider Biologics		
			Consult specialist Step 4 or higher				

WHAT ABOUT THE RED ZONE??

**My Symbicort
(budesonide/formoterol)
Rapihaler 100/3
Asthma Action Plan**

Anti-inflammatory Reliever
With or without Maintenance



Name: _____
Date: _____
Plan discussed with: (name of health care professional)

My usual best peak flow (if used): _____ l/min



Usual Medical Contact: Name and telephone number

NORMAL MODE

MY SYMBICORT ASTHMA TREATMENT IS:

- Symbicort Rapihaler 100/3 mcg
- Use with a spacer

RELIEVER

I should take 2 separate puffs (1 at a time) of my Symbicort whenever needed for relief of my asthma symptoms

I should always carry my Symbicort with me to use as a reliever when needed

MY REGULAR MAINTENANCE TREATMENT EVERY DAY IS : (enter number of puffs or 0 if no regular daily treatment prescribed)

- _____ Puffs in the morning (0, 2, 4)
- _____ Puffs in the evening (0, 2, 4)

MY ASTHMA IS STABLE IF:

- I do not wake up at night or in the morning because of asthma
- My asthma has not interfered with my usual activities (e.g housework, school, exercise)

OTHER INSTRUCTIONS
(e.g. what to do before exercise, when to see my doctor)

ASTHMA FLARE UP

IF OVER A PERIOD OF 2-3 DAYS:

- My asthma symptoms are getting worse or not improving
OR
- I am using more than 12 Symbicort reliever puffs a day
OR
- Peak flow below: _____
(delete if not used)

I SHOULD:

- Continue to use my Symbicort to relieve my symptoms and my regular daily Symbicort (if prescribed) (up to a total maximum of 24 puffs in a day)
- Contact my doctor
- Start a course of prednisolone

COURSE OF PREDNISOLONE TABLETS:

Take _____ mg prednisolone tablets each morning for _____ days; OR

IF I NEED MORE THAN 24 SYMBICORT PUFFS (TOTAL) IN ANY DAY,

- I must see my doctor or go to hospital the same day

ASTHMA EMERGENCY

SIGNS OF AN ASTHMA EMERGENCY

- My asthma symptoms are getting worse quickly
- I am finding it very hard to breathe or speak
- My Symbicort is not helping

IF I HAVE ANY OF THE ABOVE DANGER SIGNS, I SHOULD DIAL 000 FOR AN AMBULANCE AND SAY I AM HAVING A SEVERE ASTHMA ATTACK.

WHILE I AM WAITING FOR THE AMBULANCE:

- Sit upright and keep calm
- I should keep taking my Symbicort as needed
- If only Ventolin® is available, take 4 puffs as often as needed until help arrives
- Even if my symptoms appear to settle quickly I should seek medical advice right away
- Use my adrenaline autoinjector

OTHER INSTRUCTIONS

HOW MANY ICS/LABA INHALERS DO YOU PRESCRIBE PER MONTH?

- 1 Inhaler = 120 doses
- 1 puff BID x 30 days = 60
- 2 puffs BID x 30 days = 120

FLARE = 12 or more additional puffs per day over 2-3 days, MAX 24/day = 72 puffs

RED ZONE = Call the ambulance & continue taking Symbicort as needed OR use Ventolin 4 puffs as often as needed.

SCHOOLS



WHAT TO THINK ABOUT

- Educating school nurses
- Which inhaler to use?
- Asthma Action Plan
- Insurance issues- coverage for extra inhalers
- Environmental issues- indoor and outdoor



INDOOR ALLERGEN REDUCTION



KEY MESSAGES

- Evidence for single interventions designed to reduce indoor allergen exposure on asthma outcomes is lacking.
- Multicomponent interventions that bundle more than one strategy may improve some asthma outcomes, but it is unclear if specific combinations are more effective than others.
- Multicomponent interventions that include high-efficiency particulate air-filtration (HEPA) vacuums or pest control reduce exacerbations and improve quality of life.
- The evidence for both single and multicomponent interventions does not address many other important outcomes, including asthma-related health care utilization, pulmonary physiology, and asthma-related quality of life.

HUH??



NOT COVERED

- Usefulness of clinical testing for allergen sensitization (skin prick or allergen-specific immunoglobulin)
- Mitigation strategies for outdoor allergens
- Mitigation of environmental irritants (tobacco smoke)
- Occupational exposures

EVERY AGE GROUP:

Each step: Assess environmental factors, provide patient education, and manage comorbidities▲

- In individuals with sensitization (or symptoms) related to exposure to pests‡: conditionally recommend integrated pest management as a single or multicomponent allergen-specific mitigation intervention.▲
- In individuals with sensitization (or symptoms) related to exposure to identified indoor allergens, conditionally recommend a multi-component allergen-specific mitigation strategy.▲
- In individuals with sensitization (or symptoms) related to exposure to dust mites, conditionally recommend impermeable pillow/mattress covers only as part of a multicomponent allergen-specific mitigation intervention, but not as a single component intervention.▲

PRACTICAL TIPS



ALLERGIC TO PESTS OR HAVE SYMPTOMS?

IPM + ALLERGEN

NOT ALLERGIC OR HAVE SYMPTOMS?

DO NOTHING



SYMPTOMS? TEST!

ALLERGIC INDOOR ALLERGENS?

LOTS OF THINGS + SPECIFIC



DUST MITE ALLERGY

PILLOW/MATTRESS COVER

+ LOTS OF THINGS

Table III.a: Examples of Allergen Mitigation Interventions and Their Targeted Allergens

Intervention assessed in studies in the SR	Animal dander	Dust mites	Cockroaches	Mold
Acaricide		++		
Air filtration systems and air purifiers	++	+	+	++
Carpet removal	++	++		+
Cleaning products (e.g., bleach)				++
HEPA vacuum cleaners	++	+	+	++
Impermeable pillow and mattress covers		++		
Integrated pest management	+		++	

Table III.b: Summary of Certainty of Evidence on Allergen Mitigation Interventions

Intervention assessed in studies in the SR	EtD table number	Evidence on use as a single-component strategy for allergen mitigation (certainty of evidence)	Evidence on use as part of a multicomponent strategy for allergen mitigation (certainty of evidence)*
Acaricide	IV	†	Intervention makes no difference (moderate certainty of evidence)
Impermeable pillow and mattress covers	V	Intervention makes no difference (moderate certainty of evidence)	Evidence favors intervention (moderate certainty of evidence)
Carpet removal	VI	†	Intervention makes no difference (low certainty of evidence)
Integrated pest management (for cockroaches and mice)	VII	Evidence favors intervention (low certainty of evidence)	Evidence favors intervention (low certainty of evidence)
Air filtration systems and air purifiers	VIII	Intervention makes no difference (low certainty of evidence)	Intervention makes no difference (moderate certainty of evidence)
HEPA vacuum cleaners	IX	†	Evidence favors intervention (among children only; moderate certainty of evidence)
Cleaning products	X	†	†
Mold mitigation	XI	†	Evidence favors intervention (low certainty of evidence)
Pet removal	XII	†	†

† Evidence was insufficient for the Expert Panel to assess the intervention.

SUMMARY-ISH

- Allergy mitigation techniques can be used for all age groups and levels of severity
- Just because you can, does not mean that you should
 - Positive skin test with no objective evidence of worsened disease could lead to clinical tolerance. Mitigation of the allergen could lead to an imbalance in the relationship between the individual and the environment.
- Only test if symptoms suggest allergies
 - Can have false positives or negatives
 - Consider mitigation if symptoms worsen to exposure- even if the allergen testing is negative
 - Inequities in access to specialists and allergen testing- a thorough clinical history may suffice
- Tailor mitigation strategies- think about CO\$T
- Some cleaning and IPM may trigger asthma- need to weigh benefit/harm

ADVOCACY

