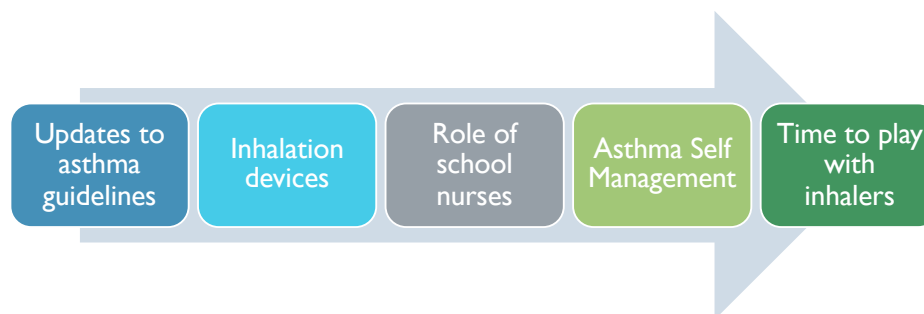


ASTHMA MEDICATION MANAGEMENT

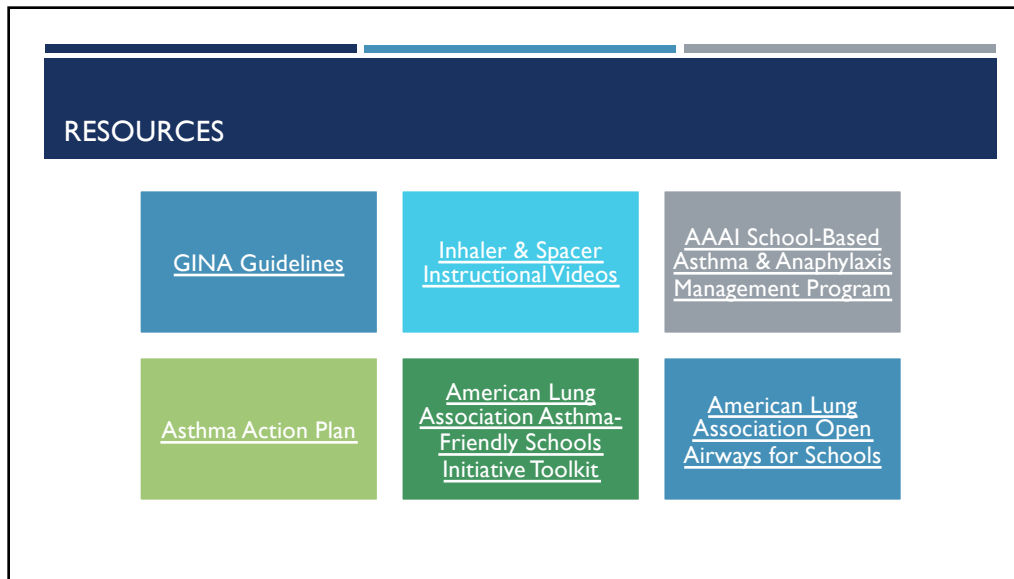
ALEXA CARLSON, PHARM.D, MED, BCPS & DAWN SWAIN, PHARM.D

1

GAME PLAN



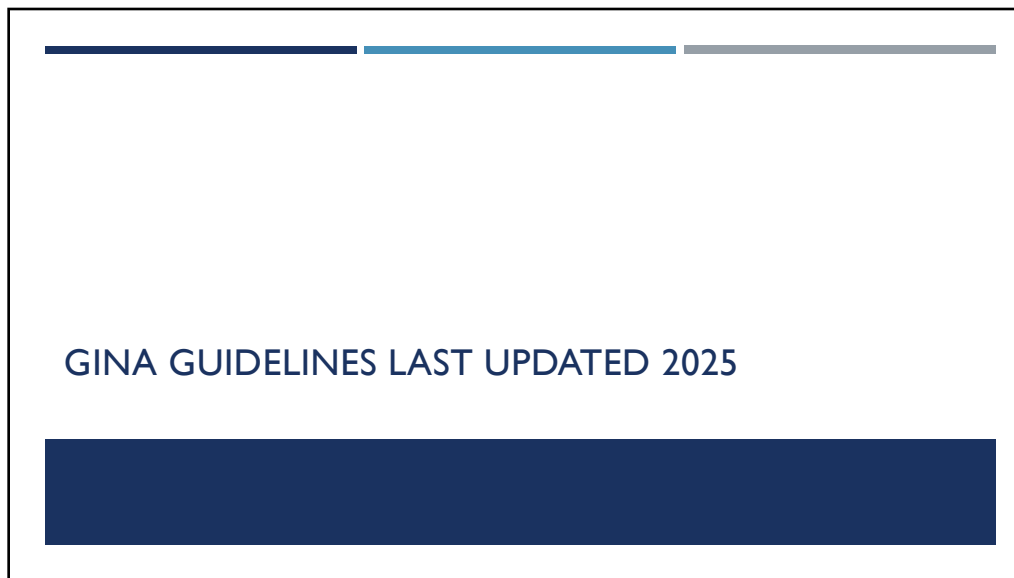
2



RESOURCES

<u>GINA Guidelines</u>	<u>Inhaler & Spacer Instructional Videos</u>	<u>AAAI School-Based Asthma & Anaphylaxis Management Program</u>
<u>Asthma Action Plan</u>	<u>American Lung Association Asthma-Friendly Schools Initiative Toolkit</u>	<u>American Lung Association Open Airways for Schools</u>

3



GINA GUIDELINES LAST UPDATED 2025

4

GINA 2025
Children 5 years and younger

Personalized asthma management:
Assess, Adjust, Review response

Symptoms
Exacerbations
Side-effects
Comorbidities
Lung function
Child and parent/caregiver satisfaction

ASSESS
Exclude alternative diagnoses
Symptom control & modifiable risk factors
Inhaler technique & adherence
Child and parent/caregiver preferences and goals

ADJUST
Treatment of modifiable risk factors and comorbidities
Non-pharmacological strategies
Asthma medications
Education & skills training

REVIEW

Asthma medication options:
Adjust treatment up and down for individual child's needs

	STEP 1 (Insufficient evidence for daily controller)	STEP 2 Daily low dose inhaled corticosteroid (ICS) (see Box 11-3 for ICS dose ranges for pre-school children)	STEP 3 Double 'low dose' ICS (See Box 11-3)	STEP 4 Continue controller & refer for specialist assessment
PREFERRED CONTROLLER CHOICE				
Other controller options (limited indications, or less evidence for efficacy or safety)	Consider intermittent short course ICS at onset of viral illness	Daily leukotriene receptor antagonist (LTRA ¹), or intermittent short course of ICS at onset of respiratory illness	Consider specialist referral	
RELIEVER	As-needed short-acting beta ₂ -agonist			
CONSIDER THIS STEP FOR CHILDREN WITH:	Infrequent acute (e.g. viral-induced) wheezing episodes and no or minimal interval asthma symptoms	Asthma symptoms not well-controlled (Box 11-1), or one or more severe exacerbations in the past year	Asthma not well controlled on low dose ICS Before stepping up, check for alternative diagnosis and inhaler skills, review adherence and exposures	Asthma not well controlled on double ICS

ICS: inhaled corticosteroid; LTRA: leukotriene receptor antagonist (advise about risk of neuropsychiatric adverse effects); SABA: short-acting beta₂-agonist

GINA 2025, Box 11-2 © Global Initiative for Asthma, www.ginasthma.org

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GINA 2025
Children 6–11 years

Personalized asthma management:
Assess, Adjust, Review

Symptoms
Exacerbations
Side-effects
Comorbidities
Lung function
Child and parent/caregiver satisfaction

ASSESS
Confirmation of diagnosis if necessary
Symptom control & modifiable risk factors
Comorbidities
Inhaler technique & adherence
Child and parent/caregiver preferences and goals

ADJUST
Treatment of modifiable risk factors and comorbidities
Non-pharmacological strategies
Asthma medications including ICS
Education & skills training, action plan

REVIEW

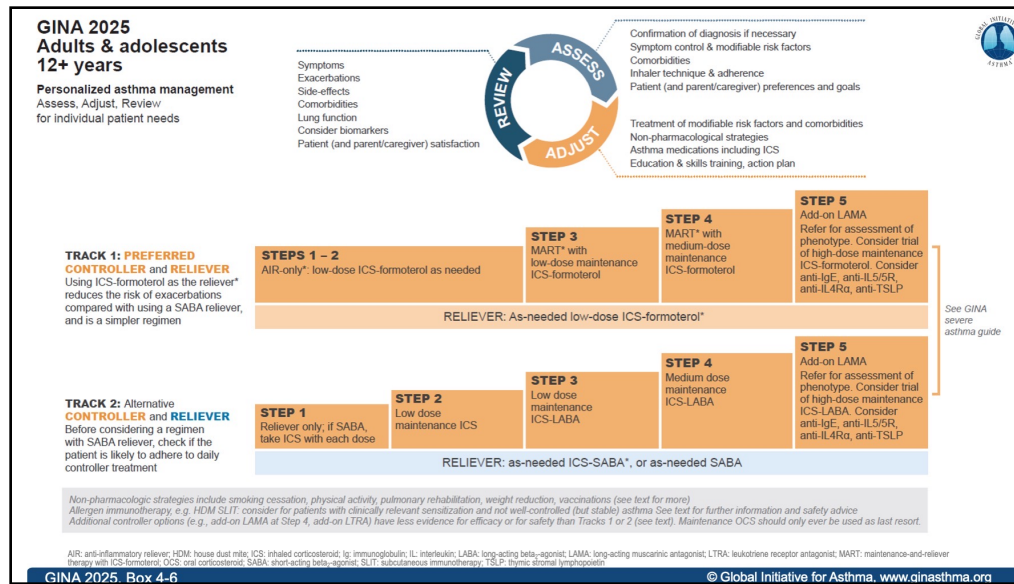
Asthma medication options:
Adjust treatment up and down for individual child's needs

	STEP 1 Low dose ICS taken whenever SABA taken*	STEP 2 Daily low dose inhaled corticosteroid (ICS) (see table of ICS dose ranges for children)	STEP 3 Low-dose ICS-LABA, OR medium-dose ICS, OR very low-dose ICS-formoterol maintenance and reliever (MART)*	STEP 4 Medium-dose ICS-LABA, OR low-dose ICS-formoterol MART* OR refer for expert advice	STEP 5 Refer for phenotypic assessment at higher dose ICS-LABA or add-on therapy, e.g. LAMA, anti-IgE, anti-IL4Rα, anti-IL5
PREFERRED CONTROLLER to prevent exacerbations and control symptoms					
Other controller options (limited indications, or less evidence for efficacy or safety)		Daily leukotriene receptor antagonist (LTRA ¹), or low dose ICS taken whenever SABA taken*	Low dose ICS + LTRA ¹	Add tiotropium or add LTRA ¹	Only as last resort, consider add-on low dose OCS, but consider side-effects
RELIEVER	As-needed SABA (or ICS-formoterol reliever* in MART in Steps 3 and 4)				

ICS: inhaled corticosteroid; Ig: immunoglobulin; IL: interleukin; LABA: long-acting beta₂-agonist; LTRA: leukotriene receptor antagonist (advise about risk of neuropsychiatric adverse effects); MART: maintenance-and-reliever therapy with ICS-formoterol; OCS: oral corticosteroid; SABA: short-acting beta₂-agonist

GINA 2025, Box 4-12 © Global Initiative for Asthma, www.ginasthma.org

6



7

NEWER TERMS

Anti-Inflammatory Reliever (AIR)

- Examples: Budesonide-formoterol PRN, budesonide-albuterol PRN
- Reliever inhaler that includes both a low-dose ICS and a rapid acting bronchodilator

(Single) Maintenance and Reliever Therapy (S)Mart

- Examples: Budesonide-formoterol scheduled daily to BID & PRN
- Treatment regimen in which the patient uses an ICS-formoterol inhaler every day (maintenance dose) and also uses the same medication as needed for relief of asthma symptoms (reliever doses)

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Box 4-8. Medications and doses for GINA Track 1 anti-inflammatory reliever (AIR) therapy (continued)	
Medications: mcg/inhalation metered dose [delivered dose] (maximum total inhalations in any day*)	Dosing frequency for ICS-formoterol formulations suitable for AIR therapy, by age group and treatment step
Children 6–11 years	
Budesonide-formoterol DPI 100/6 [80/4.5] (maximum total 8 inhalations in any day*)	Step 1–2 AIR-only: no evidence to date Step 3 MART: 1 inhalation once daily plus 1 as needed Step 4 MART: 1 inhalation twice daily plus 1 as needed Step 5 MART: not recommended
Budesonide-formoterol pMDI 50/3 [40/2.25] (maximum total 16 inhalations in any day*) <i>These doses ONLY for pMDIs with 3 [2.25] mcg formoterol</i>	<i>These doses ONLY for pMDIs with 3 [2.25] mcg formoterol</i> Step 1–2 AIR-only: no evidence to date Step 3 MART: 2 inhalations once daily plus 2 as needed Step 4 MART: 2 inhalations twice daily plus 2 as needed Step 5 MART: not recommended
Adolescents 12–17 years	
Budesonide-formoterol DPI or pMDI 200/6 [160/4.5] (maximum total 12 inhalations in any day*)	Step 1–2 (AIR-only): 1 inhalation as needed Step 3 MART: 1 inhalation twice (or once) daily plus 1 as needed Step 4 MART: 2 inhalations twice daily plus 1 as needed Step 5 MART: 2 inhalations twice daily plus 1 as needed
Budesonide-formoterol pMDI 100/3 [80/2.25] (maximum total 24 inhalations in any day*) <i>These doses ONLY for pMDIs with 3 [2.25] mcg formoterol</i>	<i>These doses ONLY for pMDIs with 3 [2.25] mcg formoterol</i> Step 1–2 (AIR-only): 2 inhalations as needed Step 3 MART: 2 inhalations twice (or once) daily plus 2 as needed Step 4 MART: 4 inhalations twice daily plus 2 as needed Step 5 MART: 4 inhalations twice daily plus 2 as needed

AIR & MART DOSING

9

The risks of apparently mild asthma



- Patients with apparently mild asthma are still at risk of serious exacerbations
 - 30–37% of adults with acute asthma
 - 16% of patients with near-fatal asthma
 - 15–27% of adults dying of asthma
- Low-dose ICS is extremely effective, but most patients are poorly adherent
 - Adherence in the community ~25–50% of prescribed dose (many studies)
 - Most patients with symptoms ≤2 days/week do not want to take a medication every day

had symptoms less than weekly in previous 3 months (*Dusser, Allergy 2007; Bergstrom, 2008*)

ICS: inhaled corticosteroids

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Why not treat with inhaled short-acting beta₂-agonists (SABA) alone?



- People with apparently mild asthma can have severe or fatal exacerbations (*Dusser et al, 2007*)
- Even 4–5 lifetime OCS courses increase the cumulative risk of adverse events including osteoporosis, diabetes, cataract, heart failure, pneumonia (*Price et al, J Asthma Allerg 2018*)
- Regular use of SABA for 1–2 weeks is associated with increased airway hyperresponsiveness, reduced bronchodilator effect, increased allergic response, increased eosinophils (*e.g. Cockcroft 2006*) → vicious cycle of increasing use
- SABA over-use is associated with ↑ exacerbations and ↑ mortality (*e.g. Suissa 1994, Nwaru 2020*)
- Starting treatment with SABA **trains** the patient to regard it as their primary asthma treatment
 - Poor adherence with ICS is almost inevitable

**There is strong evidence for a more effective
and safer alternative: as-needed ICS-formoterol**

ICS: inhaled corticosteroids; OCS: oral corticosteroids; SABA: short-acting beta₂-agonist

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11

INHALATION DEVICES

12

Barrons R. Patient Intelligence. 2015;7:53-65.

INHALER TYPES CONSIDERATIONS

Device	Advantages	Disadvantages
Metered-dose Inhaler (MDI)	<ul style="list-style-type: none"> • Portable • Variety of medications 	<ul style="list-style-type: none"> • Coordination required • High pharyngeal deposition • Requires hand strength
Dry powder Inhaler (DPI)	<ul style="list-style-type: none"> • Portable • Requires adequate inspiratory effort • Variety of medications 	<ul style="list-style-type: none"> • Minimum inspiratory flow requirement • Some may be difficult to manage for pts
Soft Mist Inhaler (SMI)	<ul style="list-style-type: none"> • Portable • Better pulmonary deposition • Reduced pharyngeal deposition 	<ul style="list-style-type: none"> • Cost • Variety of medications • Coordination required
Nebulizer	<ul style="list-style-type: none"> • Portable • Coordination not required • Tidal breathing 	<ul style="list-style-type: none"> • Length of time of administration • Variety of medications • Device cleaning • Cost of therapy • Not easily portable

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SPACERS & VALVED HOLDING CHAMBERS

Spacers

"A device that is placed on the mouthpiece of your quick-relief inhaler. When used, a spacer creates "space" between your mouth and the medicine. This space helps the medicine break into smaller droplets. The smaller droplets can move easier and deeper into your lungs when you breathe in your medicine."

Valved Holding Chambers

"A type of spacer that includes a one-way valve at the mouthpiece. This device does more than provide "space" between your mouth and the medicine. It also traps and holds your medicine, which gives you time to take a slow, deep breath. This allows you to breathe in all of the medicine"

<https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma/treatment/devices/chambers-spacers>

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<https://www.mass.gov/info-details/schools>

"MA GOAL: ESTABLISH HEALTHY SCHOOL ENVIRONMENTS THAT ADDRESS ASTHMA INEQUITIES THROUGH EVIDENCE-BASED ASTHMA PREVENTION AND CONTROL POLICIES AND PRACTICES."

Objective 1: Improve indoor air quality to reduce asthma triggers in school settings by 2026.

- Strategy 1:** Promote the implementation of regular indoor air quality assessments, building inspections and maintenance of buildings and HVAC systems in schools.
- Strategy 2:** Promote the [MDPH Clearing the Air Toolkit](#) through Technical Assistance to school districts and individual schools in communities of focus. This includes Integrated Pest Management, Moisture and mold mitigation, Toxic Use Reduction, Decluttering, etc.
- Strategy 3:** Identify and share best practices and success stories of indoor air quality improvements in schools across MA.
- Strategy 4:** Engage healthy schools' partners statewide via MAAP to facilitate the sharing of best practices, collaboration among partners, and elevation of success stories around Asthma friendly schools.

Objective 2: Improve access to professional nursing education opportunities in areas of prevention and control of asthma for school nurses by 2026.

- Strategy 1:** Promote best practices and guidance in asthma case management and environmental control curriculum for school nurses.
- Strategy 2:** Advance asthma related professional development opportunities for nurses, school nurses, childcare health managers, and other appropriate school personnel.
- Strategy 3:** Support each school district in having at least one Certified Asthma Educator.
- Strategy 4:** Work with National Asthma Educator Certification Board (NAECB) to provide access to affordable Asthma Educator Certification registration for school nurses.
- Strategy 5:** Educate school nurses to provide evidence-based asthma self-management skills training to students with asthma.
- Strategy 6:** Advocate for each school district to have at least one Certified Asthma Educator. (Partner led strategy)

Objective 3: Increase the number of school districts offering school-based asthma education programs for children and families affected by asthma by 2026.

- Strategy 1:** Prioritize the promotion of asthma prevention and control strategies, resources and programs in school districts serving the communities of focus.
- Strategy 2:** Ensure culturally and linguistically appropriate evidence-based asthma educational resources are available for students and families.
- Strategy 3:** Encourage schools to provide Asthma Self-Management Education to students (for ex: ALA Open Airways).
- Strategy 4:** Recommend inclusion of asthma education in health and science curriculum. (Partner led strategy)
- Strategy 5:** Promote asthma education opportunities through school-based and district-wide wellness committees.
- Strategy 6:** Advocate for the inclusion of asthma education in health and science curriculum. (Partner led strategy)

Objective 4: Increase the percentage of students with asthma that have and use individualized asthma action plans in schools by 2026.

- Strategy 1:** Encourage parents/guardians to support communication between clinical providers and appropriate school personnel (ex: school nurses) to support asthma care coordination.
- Strategy 2:** Recommend the adoption of school policies requiring students with an asthma diagnosis to have an individualized Asthma Action Plan at school.
- Strategy 3:** Increase collaboration between schools, families, PCPs and other care providers to support individualized Asthma Action Plans being provided and followed.
- Strategy 4:** Promote widespread education of school nurses, families, and care providers around the importance of individualized Asthma Action Plans.
- Strategy 5:** Ensure individualized Asthma Action Plans are regularly updated and are appropriate to the child's health.
- Strategy 6:** Advocate for policies requiring students with an asthma diagnosis to have an individualized Asthma Action Plan at school. (Partner led strategy)

https://allergyasthmanetwork.org/images/School-Resources/Back_to_School_Checklist_for_School_Nurses.pdf

BACK TO SCHOOL CHECKLIST FOR NURSES

- | | |
|---|--|
| <p>Before School Starts</p> <ul style="list-style-type: none"> ■ Identify students with asthma ■ Set up medication system to include inhaled medications ■ Meet with parents as needed to obtain: <ul style="list-style-type: none"> ■ Medication orders ■ Medication ■ Asthma Action Plan ■ Communicate with the student's teachers and school staff about the student's health needs ■ Review asthma symptoms, daily management concerns and emergency procedures with school staff <ul style="list-style-type: none"> ■ Post asthma signs and symptoms in classrooms ■ Provide staff with education as needed | <p>After School Starts</p> <ul style="list-style-type: none"> ■ Touch base with students with asthma to discuss asthma management at school <ul style="list-style-type: none"> ■ Assess ability for self-care and self-medication ■ Obtain medications, medication orders and Asthma Action Plans if not previously completed ■ Track expiration dates for medications ■ Write Individualized Healthcare Plan for student as needed |
|---|--|

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ASTHMA SELF-MANAGEMENT EDUCATION

18

SELF-MANAGEMENT EDUCATION

Definition

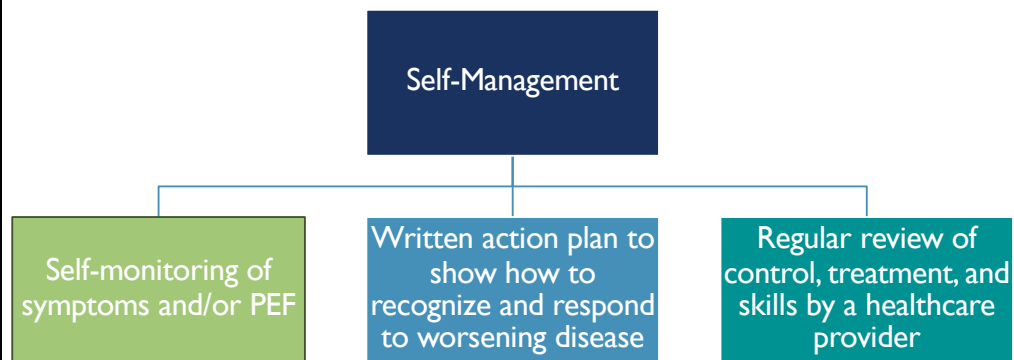
- "Structured but personalized and often multi-component with goals of motivating, engaging and supporting the patients to positively adapt their health behavior(s) and develop skills to better manage their disease. The process requires iterative interactions between patients and healthcare professionals who are competent in delivering self-management interventions. Behavioral change techniques are used to elicit patient motivation, confidence and competence. Literacy sensitive approaches are used to enhance comprehensibility." –GOLD 2025

Clinical Benefit

- Improves patient satisfaction with care
- Reduces disease related hospitalizations, ED visits, MD visits, loss of school or work-days
- Improves symptomatic control

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SELF-MANAGEMENT COMPONENTS



20

ASTHMA ACTION PLAN (AAP)

Action Plan Components

- Pharmacologic management:
 - Daily management
 - How to recognize and handle worsening asthma
 - How to manage (e.g., adjustment in chronic medications, when to add-on additional therapy (e.g., prednisone) and when to seek additional care)
 - Who to contact (e.g., PCP, 911)
- ± Non-pharmacologic management
- ± Other education

Action Plan Stratification:

- Symptoms
- Peak flow based
 - Green: PEF \geq 80% personal best
 - Yellow: 50%-80% personal best
 - Red: PEF $<$ 50% personal best

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My Asthma Action Plan
Age ≥ 5 years

Patient Name: _____
Medical Record #: _____
Physician's Name: _____ DOB: _____ Date: _____
Physician's Phone #: _____ Completed by: _____

Long Term Control Medication	How Much To Take	How Often	Other Instructions
		Twice per day	EVERY DAY
		Once per day	EVERY DAY
		Twice per day	EVERY DAY
		Once per day	EVERY DAY
Quick Relief Medication	How Much To Take	How Often	Other Instructions
		Take ONLY as needed	NOTE: If you need to use your quick relief inhaler more often than every 2 days, or if you need to use it more than 2 times a week, you may be having trouble controlling your asthma. Call your doctor.

Special instructions when I feel **green**, **yellow**, or **red**:

I feel good (Green): My peak flow is in the GREEN zone. I do NOT have good. I am feeling well. I can do all my normal activities. I should continue taking my long-term control medication every day. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses.

I am getting worse (Yellow): My peak flow is in the YELLOW zone. I am getting worse. I should continue taking my long-term control medication every day. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses.

I am in trouble (Red): My peak flow is in the RED zone. I am in trouble. I should continue taking my long-term control medication every day. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses.

CAUTION: I should continue taking my long-term control medication every day. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses.

Medical Alert: I should continue taking my long-term control medication every day. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses. I should avoid things that make my asthma worse like: allergens, smoke, colds, and viruses.

Danger! Get help immediately! Call 911 if you have trouble breathing or feeling like you are choking. Call 911 if you have trouble breathing or feeling like you are choking.

EXAMPLE AAP

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My Asthma Action Plan
For Single Inhaler Maintenance and Reliever Therapy (SMART)
with budesonide/formoterol

Name: _____ Action plan provided by: _____
Date: _____ Doctor: _____
Usual best PEF: _____ L/min Doctor's phone: _____
(if used)

Normal mode

My SMART Asthma Treatment is:
☐ budesonide/formoterol 160/4.5 (12 years or older)
☐ budesonide/formoterol 80/4.5 (4-11 years)

My Regular Treatment Every Day:
 (Write in or circle the number of doses prescribed for this patient)
 Take [1, 2] inhalation(s) in the morning
 and [0, 1, 2] inhalation(s) in the evening, every day

Reliever
 Use 1 inhalation of budesonide/formoterol whenever needed for relief of my asthma symptoms
 I should always carry my budesonide/formoterol inhaler

My asthma is stable if:
 • I can take part in normal physical activity without asthma symptoms
 AND
 • I do not wake up at night or in the morning because of asthma

Other Instructions

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 6 budesonide/formoterol reliever inhalations a day (if aged 12 years or older) or more than 4 inhalations a day (if aged 4-11 years)

I should:
☒ Continue to use my regular everyday treatment PLUS 1 inhalation budesonide/formoterol whenever needed to relieve symptoms
☐ Start a course of prednisolone
☐ Contact my doctor

Course of Prednisolone Tablets:
 Take _____ mg prednisolone tablets per day for _____ days OR

If I need more than 12 budesonide/formoterol inhalations (total) in any day (or more than 8 inhalations for children 4-11 years), I MUST see my doctor or go to the hospital the same day.

Asthma Emergency

Signs of an Asthma Emergency:
 • Symptoms getting worse quickly
 • Extreme difficulty breathing or speaking
 • Little or no improvement from my budesonide/formoterol reliever inhalations

If I have any of the above danger signs, I should dial _____ for an ambulance and say I am having a severe asthma attack.

While I am waiting for the ambulance start my asthma first aid plan:
 • Sit upright and stay calm.
 • Take 1 inhalation of budesonide/formoterol. Wait 1-3 minutes. If there is no improvement, take another inhalation of budesonide/formoterol (up to a maximum of 6 inhalations on a single occasion).
 • If only albuterol is available, take 4 puffs as often as needed until help arrives.
 • Start a course of prednisolone tablets (as directed) while waiting for the ambulance.
 • Even if my symptoms appear to settle quickly, I should see my doctor immediately after a serious attack.

Supplement to Reddel et al, JACI in Practice 2022; 10: S31-s38

This template can be modified for other ICS-formoterol combinations or for as-needed-only ICS-formoterol. The action plan on which it is based has been widely used in Australia and other countries since 2007.

Modified from Australian action plan with permission from National Asthma Council Australia and AstraZeneca Australia

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My Asthma Action Plan

Provider: _____ Clinic: _____
 American Lung Association

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 _____ (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 (____) _____
 Date: ____/____/____ 1-800-LUNGUSA Lung.org

How to Use a Metered-Dose Inhaler with a Valved Holding Chamber (Spacer)

Prime a brand-new inhaler: Before using it for the first time, if you have not used it for more than 7 days, or if it has been dropped.

- Shake inhaler 10 seconds.
- Take the cap off the inhaler and valved holding chamber. Make sure the mouthpiece and valved holding chamber are clean and there is nothing inside the mouthpieces.
- Put inhaler into the chamber/spacer.
- Breathe out away from the device.
- Put chamber mouthpiece in mouth.
- Press inhaler once and breathe in deep and steadily.
- Hold your breath for 10 seconds, then breathe out slowly.
If you need another puff of medicine, wait 1 minute and repeat steps 4-7.
- Rinse with water and spit it out.

Proper inhalation technique is important when taking your asthma medicine(s) and monitoring your breathing. Make sure to bring all your medicines and devices to each visit with your primary care provider or pharmacist to check for correct use, or if you have trouble using them.

For more videos, handouts, tutorials and resources, visit Lung.org.

Scan the QR Code to access How-To Videos

You can also connect with a respiratory therapist for one-on-one free support from the American Lung Association's Lung Help Line at 1-800-LUNGUSA.

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American Lung Association

My Asthma Action Plan

For Home and School

Name: _____ **DOB:** ____/____/____

Severity Classifications: ☐ Mild Persistent ☐ Moderate Persistent ☐ Severe Persistent

Asthma Triggers (list): _____

Peak Flow Meter Personal Best: _____

Green Zone (Good)

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 Medication—Date received: _____ **Need to receive due:** _____ **COVID-19 vaccine—Date received:** _____ **Need to receive due:** _____

Control Medication(s): _____ **Medicine:** _____ **When and how often to take:** _____ **Take at:** _____ **Check:** _____ **Refill:** _____

Physical Activity: ☐ Use Albuterol/Levalbuterol _____ puffs, 15 minutes before activity ☐ With all activity ☐ When you feel yourself

Yellow Zone (Caution)

Symptoms: Some problems breathing – Cough, wheeze, or tight chest – Problems working or playing – Wake at night
Peak Flow Meter: _____ (between 50% and 79% of personal best)

Quick-relief Medication(s): ☐ Albuterol/Levalbuterol _____ puffs, every 20 minutes for up to 4 hours as needed
☐ Continue Green Zone medicines

Control Medication(s): _____ **Medicine:** _____ **When and how often to take:** _____ **Take at:** _____ **Check:** _____ **Refill:** _____

You should feel better within 20-40 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 seek 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 Medication 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

School Staff: Follow the Yellow and Red Zone instructions for the quick-relief medicines according to asthma symptoms. The only control medicines to be administered in the school are those listed in the Green Zone with a check mark next to "Take at School".
☐ Mark the Healthcare Provider and the Parent/Guardian that the child has demonstrated the ability to carry and self-administer that quick-relief inhaler, including when to use it, if the school does not improve after taking the medicine.

Healthcare Provider: _____ **Date:** _____ **Printed:** _____ **Signature:** _____

Parent/Guardian: _____ **Date:** _____ **Printed:** _____ **Signature:** _____

Notes: _____

School Nurse: _____ **Date:** _____ **Printed:** _____ **Signature:** _____


Notes: _____

Please send a signed copy back to the provider listed above.

American Lung Association

How to Use a Metered-Dose Inhaler with a Valved Holding Chamber (Spacer)

Prime a brand-new inhaler: Before using it for the first time, if you have not used it for more than 7 days, or if it has been dropped.




- Shake inhaler 10 seconds.
- Take the cap off the inhaler and valved holding chamber. Make sure the valved holding chamber is clean and there is nothing inside the mouthpieces.
- Put inhaler into the chamber/spacer.
- Breathe out away from the device.
- Put chamber mouthpiece in mouth.
- Hold your breath for 10 seconds, then breathe out slowly.
- Rinse with water and spit it out.


Proper inhalation technique is important when taking your asthma medicine(s) and monitoring your breathing. Make sure to use all of your medicines and devices to each visit with your primary care provider or pharmacist to check for correct use, or if you have trouble using them.

For more videos, handouts, tutorials and resources, visit Lung.org.

Scan the QR Code to access How to Videos



You can also connect with a respiratory therapist for support from the American Lung Association's Lung Helpline at 1-800-LUNGUSA.

SCHOOL OR CHILD CARE ASTHMA/ALLERGY ACTION PLAN																				
<p>Name _____</p> <p>Date _____</p> <p>Parent/Guardian #1 Name _____ Address _____ Phone (area) _____</p> <p>Parent/Guardian #2 Name _____ Address _____ Phone (area) _____</p> <p>Emergency Contact #1 Name _____ Relationship _____ Phone _____</p> <p>Physician (Child sees for Asthma/Allergies) _____ Phone _____ Other Physician(s) _____</p>																				
 Attach or insert ID photo																				
<h3 style="margin: 0;">Daily Asthma Management Plan</h3> <p>Identify the Things That Start an Asthma/Allergy Episode <i>(Check each that applies to the child)</i></p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Aerosols <input type="checkbox"/> Insecticides <input type="checkbox"/> Latex <input type="checkbox"/> Respiratory infections <input type="checkbox"/> Heat rashes <input type="checkbox"/> Exercise <input type="checkbox"/> Change in temperature <input type="checkbox"/> Candles <input type="checkbox"/> Check dust/detectors <input type="checkbox"/> Pets <input type="checkbox"/> Strong odors <input type="checkbox"/> Food <input type="checkbox"/> Other _____ </div> <div style="width: 45%;"> <p>Control of Child Care Environment <i>(List any environmental control measures, glove medications, and/or allergy restrictions that the child needs to prevent an asthma/allergy episode.)</i></p> <hr/><hr/><hr/><hr/><hr/><hr/> </div> </div>																				
<p>Daily Medication Plan for Asthma/Allergy <i>(emergency medicines listed on next page)</i></p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th style="width: 33%;">MEDICINE</th> <th style="width: 33%;">HOW MUCH</th> <th style="width: 33%;">HOW OFTEN/WHEN TO USE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			MEDICINE	HOW MUCH	HOW OFTEN/WHEN TO USE															
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<p>Outside Activity and Field Trips <i>(List medications that must accompany me when participating in outside activities and/or field trips.)</i></p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th style="width: 33%;">MEDICINE</th> <th style="width: 33%;">HOW MUCH</th> <th style="width: 33%;">HOW OFTEN/WHEN TO USE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			MEDICINE	HOW MUCH	HOW OFTEN/WHEN TO USE															
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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Asthma Emergency Plan Emergency action is necessary when the child has symptoms such as:</p> <ol style="list-style-type: none"> Severe symptoms. Glove medicine as directed below. <p>Steps to Take During an Asthma Episode:</p> <ol style="list-style-type: none"> Give emergency asthma medication as listed below. Allow child to stay in school or at child care setting if: <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th>MEDICINE</th> <th>HOW MUCH</th> <th>HOW OFTEN/WHEN TO USE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> <ol style="list-style-type: none"> Check symptoms after _____ minutes. Give medicine again if symptoms have not improved. Allow child to stay in school or at child care setting if: </div> <div style="width: 45%;"> <p>Allergy Emergency Plan Child's allergic to:</p> <p>Steps to Take During an Allergy Episode:</p> <ol style="list-style-type: none"> Severe symptoms. Glove medicine as directed below. <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th>MEDICINE</th> <th>HOW MUCH</th> <th>HOW OFTEN/WHEN TO USE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> <ol style="list-style-type: none"> Check symptoms after _____ minutes. Allow child to stay in school or at child care setting if: </div> </div> <div style="text-align: center; margin-top: 10px;"> <p>Severe symptoms need immediate treatment and medical help</p> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p>5. Current prescription(s)</p> <p>6. Severe emergency medical care if the child has any of the following:</p> <div style="border: 1px solid black; padding: 5px; font-size: x-small;"> <p>Signs and symptoms of severe asthma episode</p> <ul style="list-style-type: none"> No improvement after two treatments Rapid time breathing with Chest and neck pulled in with breathing Child has trouble sleeping Nose opens wide Trouble settling or talking Throat popping and cannot start activity again Blue lips, or fingertips turn gray or white on darker skin or blue on lighter skin </div> </div> <div style="width: 45%;"> <p>7. Current prescription(s)</p> <p>8. Severe emergency medical care if the child has any of the following:</p> <div style="border: 1px solid black; padding: 5px; font-size: x-small;"> <p>Symptoms of severe allergic reaction</p> <ul style="list-style-type: none"> Mouth: itching and swelling of lips, tongue, mouth, throat Allergic rhinitis: hives/rash, cough Skin: hives, itchy rash, swelling Eyes: redness, watery eyes, burning, itching Stomach: abdominal cramping, vomiting, diarrhea Lungs: shortness of breath, coughing, wheezing Heart: pulse is hard to detect, "beating out" <p>*If child has asthma, asthma symptoms may also need to be treated.</p> </div> </div> </div>			MEDICINE	HOW MUCH	HOW OFTEN/WHEN TO USE							MEDICINE	HOW MUCH	HOW OFTEN/WHEN TO USE						
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<p>Special Instructions</p> <p><input type="checkbox"/> Have instructed _____ in the proper way to use their medications. It is my professional opinion that they should carry their asthma/allergy medicines by themselves.</p> <p><input type="checkbox"/> Is my professional opinion that _____ should not carry their asthma/allergy medicines by themselves.</p>																				
<table style="width: 100%; font-size: x-small;"> <tr> <td style="width: 33%;">Physician Signature _____</td> <td style="width: 33%;">Date _____</td> <td style="width: 33%;">Parent/Guardian Signature _____ Date _____</td> </tr> <tr> <td colspan="3"><i>(Signature area must include physician's name, address, phone number, fax number, email address, and hospital affiliation.)</i></td> </tr> <tr> <td colspan="3">This action plan was developed in collaboration with the National Education and Teacher Program (NETP) and _____.</td> </tr> </table>			Physician Signature _____	Date _____	Parent/Guardian Signature _____ Date _____	<i>(Signature area must include physician's name, address, phone number, fax number, email address, and hospital affiliation.)</i>			This action plan was developed in collaboration with the National Education and Teacher Program (NETP) and _____.											
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