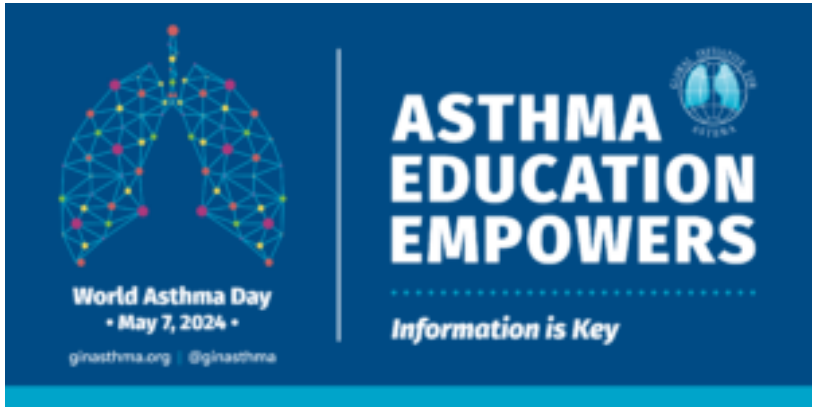

GINA GUIDELINES FOR ASTHMA MANAGEMENT
Ages 12 years and older

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Financial Disclosure

- Planners, Content Reviewers and Speakers for this activity:
  - Did provide disclosure information.
  - Have no relevant financial arrangements or affiliations with commercial interests
  - May discuss commercial products/services and/or non-FDA approved uses of products/providers of services.
- Commercial Support

  This activity receives no commercial support.

Case

- 12-year-old African American male residing in a rural neighborhood with a high prevalence of environmental allergens and air pollution.
- He has a family history of asthma, -older sister
- Patient diagnosed with asthma at the age of 6y following recurrent episodes of wheezing, coughing, and chest tightness.
- Despite adherence to prescribed medications, his symptoms gradually worsened over the years.
- Attended state asthma camp for first time

Case

- Day 1/5 check in
    - clear breath sounds, O2 sat 98%, other vitals normal.
    - Daily meds include QVAR scheduled daily and Albuterol as needed.
- Day 2/5: visits the health hut of asthma camp

    His symptoms include:

    1. daily persistent coughing
    2. wheezing with any exertion
    3. shortness of breath today, and nocturnal awakenings.
    4. Chest tightness

Case

- peak flow meter -appropriate technique noted. He was 60% of stated personal best.
- Physical examination:
  - mild wheeze bilaterally with decreased right lung breath sounds with prolonged expiratory phase.
  - spirometry available and demonstrated significant airflow obstruction with a forced expiratory volume in one second (FEV1) less than 60% predicted and FEV1/FVC ratio <0.70.

Case

- *Camp Management:*
  - **Pharmacological Therapy:**

1. QVAR 80 mg qd 1 puff daily. Increase if symptoms of asthma.
2. He has an order for Prednisone 2mg/kg/day for acute exacerbations and maintenance therapy during periods of severe symptoms.
3. Albuterol 2 puffs as rescue medication for symptom relief.

- **Asthma Action Plan:**

  - personalized asthma action plan delineating steps for daily management, recognition of worsening symptoms, and appropriate actions during exacerbations.

Case

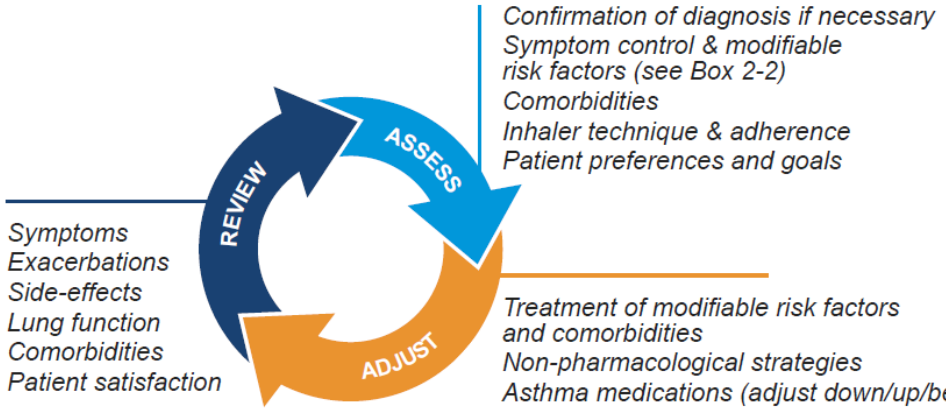
- Post camp education on...
    1. Use of Asthma Action Plan.
    2. Use of peak flows.
    3. Regular follow-up visits with healthcare providers for asthma monitoring and adjustment of treatment as needed.

Discussion

- Further questions for Linda
- Thoughts on control/risk
- Assessment of adherence/technique
- Thoughts on current management

GINA 2023 – Adults & adolescents 12+ years

Personalized asthma management
Assess, Adjust, Review
for individual patient needs



TRACK 1: PREFERRED CONTROLLER and RELIEVER
Using ICS-formoterol as the reliever* reduces the risk of exacerbations compared with using a SABA reliever, and is a simpler regimen

STEPS 1 – 2	STEP 3	STEP 4	STEP 5
As-needed-only low dose ICS-formoterol	Low dose maintenance ICS-formoterol	Medium dose maintenance ICS-formoterol	Add-on LAMA Refer for assessment of phenotype. Consider high dose maintenance ICS-formoterol, ± anti-IgE, anti-IL5/5R, anti-IL4Rα, anti-TSLP
RELIEVER: As-needed low-dose ICS-formoterol*			

See GINA severe asthma guide

TRACK 2: Alternative CONTROLLER and RELIEVER
Before considering a regimen with SABA reliever, check if the patient is likely to adhere to daily controller treatment

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Take ICS whenever SABA taken*	Low dose maintenance ICS	Low dose maintenance ICS-LABA	Medium/high dose maintenance ICS-LABA	Add-on LAMA Refer for assessment of phenotype. Consider high dose maintenance ICS-LABA, ± anti-IgE, anti-IL5/5R, anti-IL4Rα, anti-TSLP
RELIEVER: as-needed ICS-SABA*, or as-needed SABA				

Other controller options (limited indications, or less evidence for efficacy or safety – see text)	*Low dose ICS whenever SABA taken*, or daily LTRA, or add HDM SLIT*	*Medium dose ICS, or add LTRA, or add HDM SLIT*	*Add LAMA or LTRA or HDM SLIT, or switch to high dose ICS*	*Add azithromycin (adults) or LTRA. As last resort consider adding low dose OCS but consider side-effects*

*Anti-inflammatory reliever (AIR)

GINA 2023 – Adults and adolescents
Track 1

Maintenance and reliever therapy (MART) with ICS-formoterol

As-needed-only ICS-formoterol ('AIR-only')

TRACK 1: PREFERRED CONTROLLER and RELIEVER
Using ICS-formoterol as the reliever* reduces the risk of exacerbations compared with using a SABA reliever, and is a simpler regimen

STEPS 1 – 2
As-needed-only low dose ICS-formoterol*

STEP 3
Low dose maintenance ICS-formoterol*

STEP 4
Medium dose maintenance ICS-formoterol

STEP 5
Add-on LAMA
Refer for assessment of phenotype. Consider high dose maintenance ICS-formoterol, ± anti-IgE, anti-IL5/5R, anti-IL4Rα, anti-TSLP

RELIEVER: As-needed low-dose ICS-formoterol*

*An anti-inflammatory reliever (AIR)

A little more on other options for steps 4 and 5

Step 4:

- Add on LAMA (Spiriva Respimat or Trelegy) in asthmatics not well controlled on med dose ICS-LABA
  - Modest increase in lung function and small decrease in exacerbations
- Consider SLIT if dust mite allergy and FEV-1 >70%

Step 5:

- Add on LAMA (Spiriva Respimat or Trelegy) in asthmatics not well controlled on med dose ICS-LABA
  - Modest increase in lung function and a small decrease in exacerbations
- Anti IgE – omalizumab/Xolair for 6y+ with elevated IgE
- Anti-IL5-mepoluzimab/Nucala for 6 y+
- Anti-IL5R – benralizumab/Fasenra for 12y+
- Anti-IL4- duplimab/Dupixent for 6 y +

For TH2 type/ eosinophilic asthma

- Anti-TSLP* – tesepeluman/Tezspire 12 y +-

  Broader effect- covers eosinophilic or neutrophilic asthma
- Add on Zithromax as anti-inflammatory MWF- reduces exacerbations but increases resistance

*Thymic stromal lymphopoietin

Step	Age (years)	Medication and device (check patient can use inhaler)	Metered dose (mcg/inhalation)	Delivered dose (mcg/inhalation)	Dosage
Steps 1–2 (AIR-only)					
	12–17	Budesonide-formoterol DPI	200/6	160/4.5	**1 inhalation whenever needed**
	≥18				
Step 3 MART					
	12–17	Budesonide-formoterol DPI	200/6	160/4.5	**1 inhalation once or twice daily,** PLUS 1 inhalation whenever needed
	≥18				
Step 4 MART					
	12–17	Budesonide-formoterol DPI	200/6	160/4.5	**2 inhalations twice daily**, PLUS 1 inhalation whenever needed
	≥18				
Step 5 MART					
	12–17	Budesonide-formoterol DPI	200/6	160/4.5	**2 inhalations twice daily**,
	>18				

DPI: dry powder inhaler; pMDI: pressurized metered dose inhaler. For budesonide-formoterol pMDI with 3 mcg [2.25 mcg] formoterol, use double number of puffs

Budesonide-formoterol: max 12 inhalations for adults, 8 inhalations for children . Based on extensive safety data

OCS are preferably taken in the morning:

- Adults: prednisone 40-50 mg for 5-7 days
- Children Prednisolone 1-2 mg/kg/day up to 40 mg for 3-5 days

Tapering not needed if OCS given < 2 weeks