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Pharmacy Solutions

Asthma: Diagnosis and Treatment

Pharmacy and Therapeutics Committee
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Iris Ivey, RPh
DUR Clinical Pharmacist

Objectives

- Review of the societal impact of asthma
- Review of hereditary and environmental factors of asthma
- Goals of asthma therapy
- Pharmalogical treatment of asthma
- Patient's role in asthma care and treatment

Societal Impact of Asthma

Asthma is the 14th most important disorder in the world in terms of the extent and duration of disability.

- Asthma is responsible for about 5,000 deaths and about 2.5 million hospitalizations or emergency department visits yearly.
- Asthma also results in a yearly loss of millions of school and work days.
- 14% of the world's children experience asthma symptoms.
- 8.6% of young adults (aged 18-45) experience asthma symptoms.
- 4.5% of young adults have been diagnosed with asthma and/or are taking treatment for asthma.
- The burden of asthma is greatest for children aged 10-14 and the elderly aged 75-79.
- Black and Hispanic (Puerto Rican) populations have disproportionately higher rates in poor outcomes, hospitalizations, and deaths in the United States.
- The total cost is estimated to be $19 billion per year.

Components of Asthma Care

Component 1: Assessing and Monitoring Asthma Severity and Asthma Control.

- Guide treatment options by an assessment of asthma control rather than asthma severity
- Determine appropriate therapy for patients who are not already on a controller medication

Component 2: Control of Environmental Conditions that affect asthma

Component 3: Medications

Component 4: Education for a Partnership in Care

GOALS OF ASTHMA TREATMENT

Reduce impairment:

- Reduce symptoms of asthma (cough, chest tightness, wheezing, or shortness of breath),
- Minimal need (≤2 days per week) of inhaled short acting beta agonists (SABAs) to relieve symptoms,
- Few night-time awakenings (≤2 nights per month) due to asthma,
- Optimization of lung function,
- Maintenance of normal daily activities,
- Satisfaction with asthma care on the part of patients and families.

Reduce risk:

- Prevention of recurrent exacerbations and need for emergency department or hospital care,
- Prevention of reduced lung growth in children, and loss of lung function in adults,
- Optimization of pharmacotherapy with minimal or no adverse effects.

Stepwise Approach to Asthma Treatment

					Step 5
				Step 4	Refer for expert investigation and add on treatment
			Step 3	Medium dose ICS/LABA	
			Low dose ICS/LABA		low dose ICS, tiotropium, anti-IgE, anti-IL5
		Step 2		add Tiotropium, or med dose ICS +LTRA or theophylline	
		Regular low dose ICS + SABA as needed	med/high dose ICS + LTRA or theophylline		
	Step 1				
	consider low dose ICS				
Other control options	As-needed SABA with no controller	Leukotriene receptor agonist (LTRA) or low dose theophylline	as needed SABA or low dose ICS/formoterol	as needed SABA or low dose ICS/formoterol	as needed SABA or low dose ICS/formoterol

HEDIS Adherence Measure

Asthma Medication Ratio

The goal of the measure is to ensure patients are on controller medications and are adherent to their controller medications.

- Assesses adults and children 5–64 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications of 0.50 or greater during the measurement year.

- Measure to help providers assess the quality of asthma care received by their patients with persistent/chronic asthma.

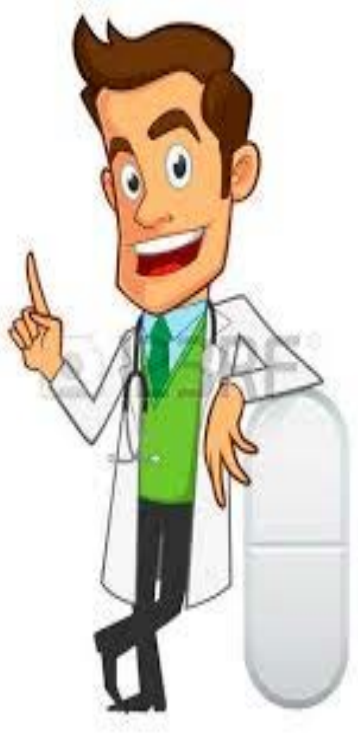
- AMR is a good predictor of acute asthma exacerbations

Barriers to Asthma Medication Adherence

- Forgetfulness
- Cost
- Education
- Drug safety
- Belief that the patient's asthma is not severe enough to require daily treatment
- Daily life hassles

Tips from a Pharmacist

- Motivational Interviewing
  - ✓ Develop and use communication skills to enhance competence in caring for all patients
  - ✓ Develop a partnership with patients in establishing treatment goals
- Asthma Action Plan
  - ✓ Encourage adherence to action plans
- Asthma Education
  - ✓ Understand the role of medicines and how to take th
  - ✓ Inhaler Technique
  - ✓ Understand what triggers asthma attacks and how to avoid them
  - ✓ Recognize early signs and symptoms of worsening asthma



Patient Education Discussions

Asthma Education Issues Patients Discuss with Their Health Care Providers

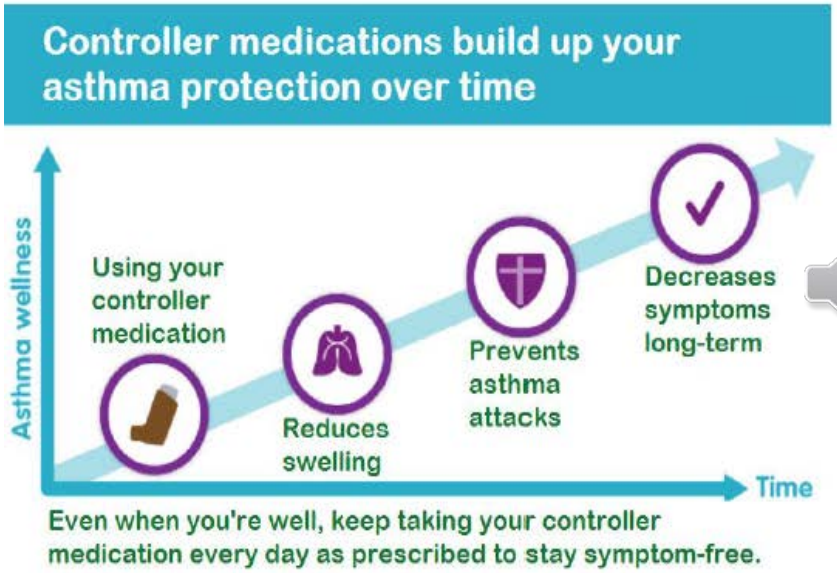
	Patients	Physicians
A plan for treating asthma	53%	87%
Correct inhaler technique	63%	95%
Keeping daily symptom/medication diaries	23%	50%
Monitoring peak expiratory flow	37%	84%
Contacting patient support groups	7%	26%

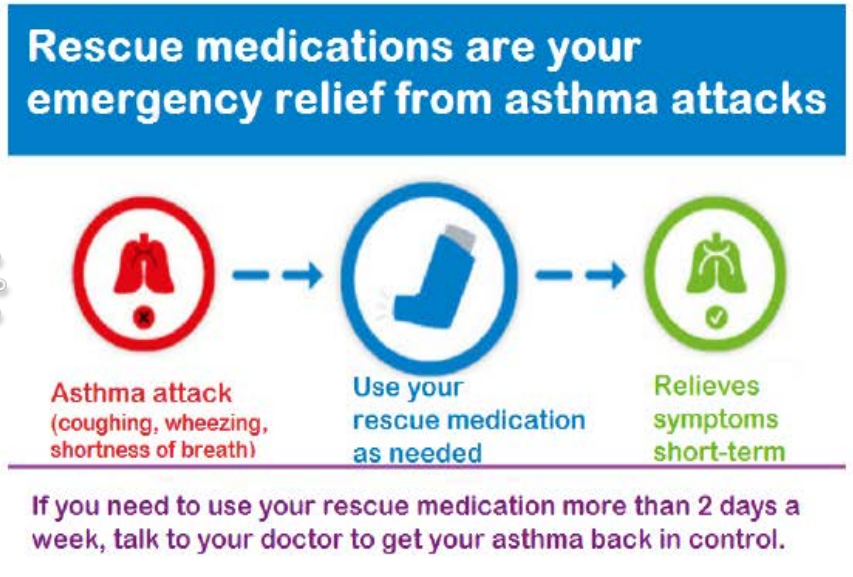
Patient question: Does your doctor or other healthcare professional in his or her office discuss any of the following with you?

Physician question: Do you regularly discuss the following with your asthma patients?

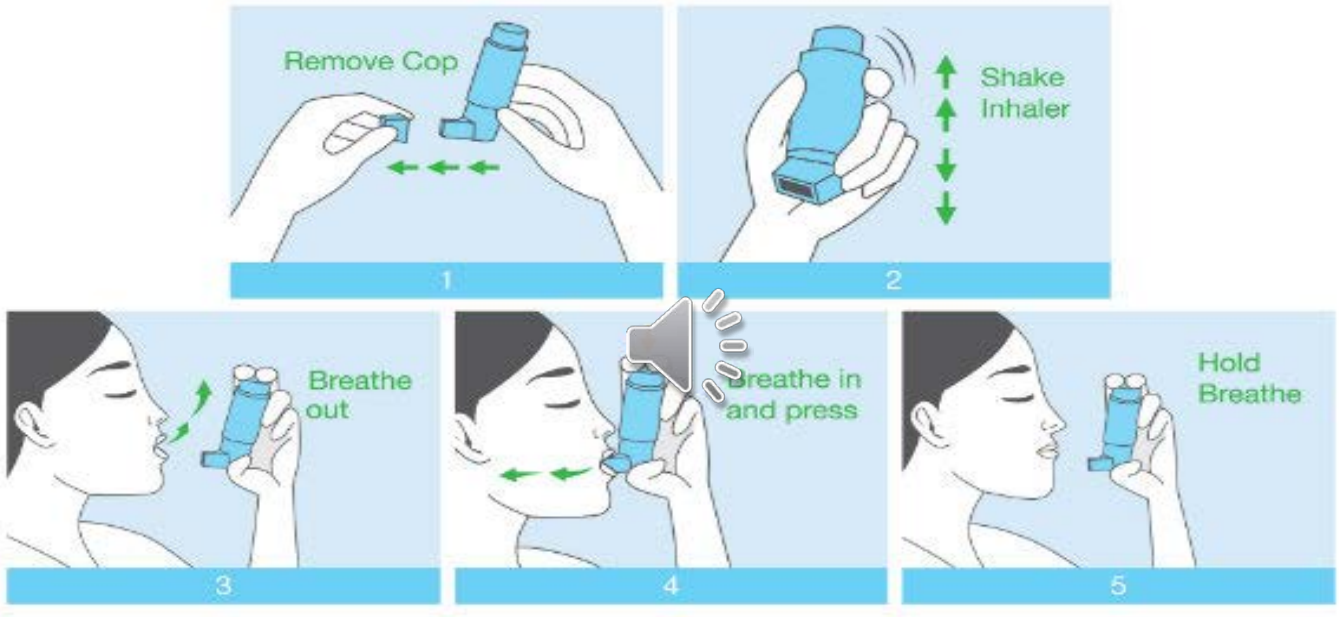
Patient Education

Controller VS Rescue!





Inhaler technique



ASTHMA ACTION PLAN

Asthma and Allergy Foundation of America
aafa.org

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

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: _____

GO

You have *all* of these:
- Breathing is good
- No cough or wheeze
- Sleep through the night
- Can work & play

Peak flow:
from _____
to _____

Use these daily controller medicines:

MEDICINE	HOW MUCH	HOW OFTEN/WHEN
For asthma with exercise, take:		

CAUTION

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

Peak flow:
from _____
to _____

Continue with green zone medicine and add:

MEDICINE	HOW MUCH	HOW OFTEN/ WHEN
CALL YOUR ASTHMA CARE PROVIDER.		

DANGER

Your asthma is getting worse fast:
- Medicine is not helping
- Breathing is hard & fast

Peak flow:

Take these medicines and call your doctor now.

MEDICINE	HOW MUCH	HOW OFTEN/WHEN

Conclusion

Goals of asthma therapy include:

- Helping people with asthma gain and maintain control will reduce the burden of asthma in all populations.
- A reduction in the number of deaths, hospitalizations, emergency room visits, missed school and work days, and limitations of activity due to asthma.
- Increased medical management by delivering comprehensive care of asthma in all populations.

Resources

- http://ginasthma.org/2018-pocket-guide-for-asthma-management-and-prevention/
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3651005/

- **National Heart, Lung, and Blood Institute**

  Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma (EPR-3) www.nhlbi.nih.gov/guidelines/asthma

  Physician Asthma Care Education (PACE): www.nhlbi.nih.gov/health/prof/lung/asthma/pace/

  National Asthma Control Initiative (NACI): http://naci.nhlbi.nih.gov