



DIAGNOSING ASTHMA

School Nurse Academy



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Diagnosing Asthma

DIAGNOSTIC FEATURE

CRITERIA FOR MAKING THE DIAGNOSIS OF ASTHMA

1. History of variable respiratory symptoms

Wheeze, shortness of breath, chest tightness and cough

Description may vary between cultures and by age, e.g. children may be described as having heavy breathing

- Generally more than one type of respiratory symptom
- Symptoms are variable over time and vary in intensity
- Symptoms are often worse at night or on waking
- Symptoms are often triggered by exercise, laughter, allergens, cold air
- Symptoms often appear or worsen with viral infections

2. Confirmed variable expiratory airflow limitations

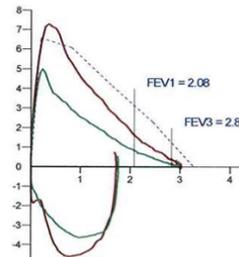
Pulmonary Function Testing (PFTs) can be attempted starting around age 6

Response to bronchodilator in **FEV1** of >12% indicates asthma

FEV1 represents flow as a function of volume in time (amount of air that can be blown out in 1 second)

Asthma shows an obstructive pattern on PFTs

- Identify presence (or absence) of pulmonary dysfunction
- Evaluate bronchodilator response (or lack of)
- Trend patient progress with medications



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CRITERIA FOR MAKING THE DIAGNOSIS OF ASTHMA

1. History and Family History

Family History of Asthma or Allergy

Patient with allergic rhinitis or Atopic dermatitis

Physical Exam can be normal

- Increased the probability that the respiratory symptoms are due to asthma
- Patients should be asked about specific respiratory symptoms
- If patient is in a flare-up decreased or expiratory wheezes may be present



How Can You Help
Students with Asthma?



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Asthma Resources



Stepwise Approach to making it safe in the home for your child with asthma

Asthma Management at Home



Managing an Asthma Flare-Up at Home



www.allergyasthmanetwork.org



www.aaaai.org



www.lung.org/asthma



www.epa.gov/asthma



www.ginasthma.org



www.iggyandtheinhalers.com



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Control is the Name of the Game

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Asthma Management Goals

1 Good symptom control

2 Minimize future risk of exacerbation

3 Minimize fixed airway limitations

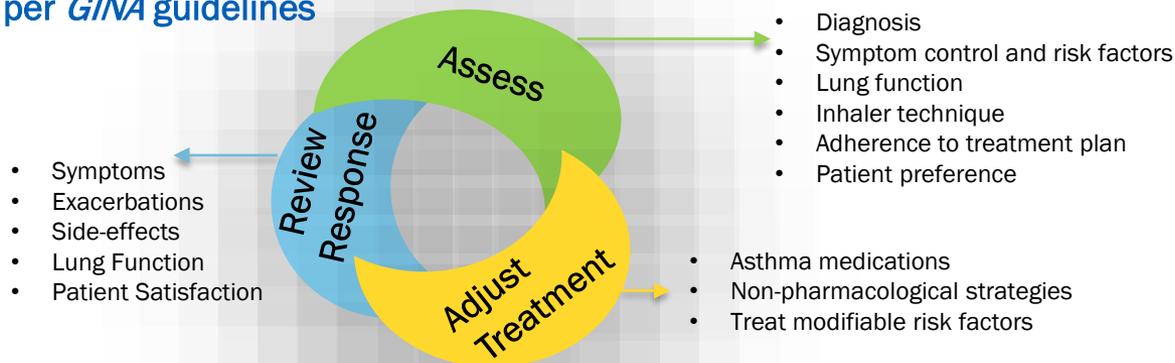
4 Minimize side effects of treatment

5 Identify patient and family goals

Global Initiative for Asthma (GINA):2018 Global Strategy for Asthma Management and Prevention.



The control-based asthma management cycle per *GINA* guidelines



Achieving Control

Albuterol for quick acting relief of symptoms



*Always use a chamber with HFA's

***New Dry Powder Inhaler
DO NOT USE A CHAMBER**

Short-acting Beta agonist (SABA)

Indications for SABA

Prescribed for anyone with a diagnosis of asthma

Treatment or prevention of bronchospasm

Desired Effect

Relieve symptoms associated with an asthma flare-up

Prevent exercise induced bronchospasm

Dilate the smooth muscle surrounding the airway

Potential side effects

Increased heart rate & blood pressure

Jitteriness

Excessive use can be fatal

Paradoxical bronchospasm

Achieving Control

Inhaled Corticosteroids are the First Line of Defense



Indications for ICS

One or more risk factors for exacerbation

Waking due to asthma more than once a month

Symptoms or reliever use more than twice a week

Desired Effect

Suppress airway inflammation

Control symptoms

Reduce future risk of exacerbations

Stop decline in lung function

Potential side effects

Oropharyngeal candidiasis

Pharyngitis

Adrenal crisis

Suppressed growth velocity

Osteoporosis

Achieving Control

What happens when ICS alone is not enough?



Indications for LABA +ICS

Persistent symptoms for 2 to 3 months despite adherence to ICS

Exercise induced asthma not controlled with ICS + SABA

Desired Effect Suppress airway inflammation

Relax smooth muscle bands

Reduce future risk of exacerbations

Stop decline in lung function

Potential Side Effects

Palpitations

Tremors

Headache

Muscle Cramps
Decreased Potassium

Achieving Control

What other adjunct medications help asthma?



Leukotriene receptor antagonist (LTRA)



Indications for LTRA

Asthma driven by allergic rhinitis, indoor allergens, and seasonal allergies

Exercise induced asthma not controlled with ICS + SABA

Desired Effect

Suppress Leukotrienes

Suppress inflammation in the airways

Reduce future risk of exacerbations

Potential side effects

Upset stomach
Diarrhea
Trouble Sleeping
Headache
Weakness
Muscle Pain
Cold Symptoms
Mood changes
Skin rashes

Achieving Control

Non-Pharmacological Strategies

- No safe level of 2nd hand smoke
- Exercise should be encouraged
 - Provide advice on talking with provider on prevention and management of exercise-induced bronchospasm
- Healthy diet and weight reduction
- **AVOID INDOOR AND OUTDOOR TRIGGERS**
- Deal with emotional stress
- Identify barriers to medication adherence
 - Intentional vs. non-intentional



Assessing Control



In the past 4 weeks, has the patient had:		Well Controlled	Partly Controlled	Uncontrolled
Daytime symptoms more than twice/week?	Yes <input type="checkbox"/> No <input type="checkbox"/>	None of these	1 or 2 of these	3 or 4 of these
Any night waking due to asthma?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Reliever needed more than twice/week?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Any activity limitation due to asthma?	Yes <input type="checkbox"/> No <input type="checkbox"/>			