

## Appropriate Interventions for Asthma Control

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### Disclosures

**Research:**

- GSK
- Genentech
- Forest
- Novartis
- Boehringer Ingelheim
- Astra Zeneca
- Merck

**Speaker:**

- Teva
- Merck
- Genentech

**Consultant:**

- Novartis
- Merck

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### Objectives:

1. Understand how to determine asthma severity
2. Be able to treat appropriately based on asthma severity
3. Be able to determine asthma control
4. Be able to know how to determine therapy based on asthma control
5. Improve outcomes for your patients with asthma

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**Reference is:**

- “NHLBI asthma guidelines”
- Search this phrase on Google just as is and go to the executive summary, which is accessible for free and use is allowed without need for permission

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**Case presentation:**

- Fred is a 16 year old male patient labeled with childhood asthma and atopy who presented for a new visit with worsening asthma and rhinitis symptoms during the last four months.
- His symptoms included frequent nasal congestion, cough, shortness of breath, wheezing and episodes of nocturnal awakening despite being on albuterol.

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**Fred’s Past Medical History**

- Childhood atopic dermatitis
- Past history of egg allergy (outgrown)
- Asthma since age 3
- Rhinitis
- Non-smoker
- No occupational risk factors
- Allergies: Sensitive to trees, grass, molds, dog and mites.

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**Medications**

- albuterol 2 puff q 4 hrs. PRN asthma
- intranasal triamcinolone 2 sprays QDay

**Physical Exam**

- Expiratory wheezing, prolonged expiratory phase
- HEENT: mucosa edema
- No rash

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**All the questions below are correct except one. Which question is not correct as per the NHLBI guidelines to ask to determine his asthma severity?**

- A. How many times did you use albuterol in the past week?
- B. How many times at night did you awake from asthma in the past month?
- C. How often did you have daytime symptoms in the past week?
- D. How many asthma attacks did you have in the past month?
- E. Has exercise or productivity been affected by asthma?

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**All the questions below are correct except one. Which question is not correct as per the NHLBI guidelines to ask to determine his asthma severity?**

- A. How many times did you use albuterol in the past week?
- B. How many times at night did you awake from asthma in the past month?
- C. How often did you have daytime symptoms in the past week?
- D. How many asthma attacks did you have in the past month?
- E. Has exercise or productivity been affected by asthma?

*Answer: D (It should be over the past year.)*

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**His asthma severity was “persistent severe” by NIH guidelines**

Components of Severity	Classification of Asthma Severity (Youths ≥12 of age and adults)			
	Intermittent	Persistent		
		Mild	Moderate	Severe
Symptoms	≤2 days/week	>2 days/week but not daily	Daily	Throughout the day
Nighttime awakenings	≤2x/month	3-4x/month	>1x/week but not nightly	Often 7x/week
Short-acting beta <sub>2</sub> -agonist use for symptom control	≤2 days/week	>2 days/week but >1x/day	Daily	Several times per day
Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
Long function	<ul style="list-style-type: none"> <li>Normal FEV<sub>1</sub> between exacerbations</li> <li>FEV<sub>1</sub> &gt;80% predicted</li> <li>FEV<sub>1</sub>/FVC normal</li> </ul>	<ul style="list-style-type: none"> <li>FEV<sub>1</sub> &gt;80% predicted</li> <li>FEV<sub>1</sub>/FVC normal</li> </ul>	<ul style="list-style-type: none"> <li>FEV<sub>1</sub> &gt;60% but &lt;80% predicted</li> <li>FEV<sub>1</sub>/FVC reduced ≥5%</li> </ul>	<ul style="list-style-type: none"> <li>FEV<sub>1</sub> &lt;60% predicted</li> <li>FEV<sub>1</sub>/FVC reduced &gt;5%</li> </ul>
Risk	Exacerbations requiring oral systemic corticosteroids 0-1/year      >2 in 1 year <small>Relative annual risk of exacerbations may be related to FEV<sub>1</sub></small>			

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**Back to our patient:**

- Fred is using albuterol at least a few times a day
- He is waking about 2 or 3 times a month
- “I am no longer able to run”
- Symptoms are present every day over the past week
- No asthma attacks over the past year

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**What is Fred’s asthma severity?**

- A. Mild intermittent
- B. Mild persistent
- C. Moderate persistent
- D. Severe persistent

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## What is Fred's asthma severity?

- A. Mild intermittent
- B. Mild persistent
- C. Moderate persistent
- D. Severe persistent

Answer: D

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## His asthma severity was "persistent severe" by NIH guidelines

Components of Severity		Classification of Asthma Severity (Youths >12 of age and adults)			
		Intermittent	Mild Persistent	Moderate Persistent	Severe Persistent
Impairment	Symptoms	≤2 days/week	>2 days/week but not daily	Daily	Throughout the day
	Nighttime awakenings	≤2x/month	3-4x/month	>4x/week but not nightly	Often 7x/week
Normal FEV <sub>1</sub> /FVC: 8-19 yr 85%, 20-59 yr 80%, 60-80 yr 75%	Short-acting beta <sub>2</sub> -agonist use for symptom control	≤2 days/week	>2 days/week but >1x/day	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
Risk	Long function	* Normal FEV <sub>1</sub> between exacerbations * FEV <sub>1</sub> >80% predicted * FEV <sub>1</sub> /FVC normal	* FEV <sub>1</sub> >80% predicted * FEV <sub>1</sub> /FVC normal	* FEV <sub>1</sub> >60% but <80% predicted * FEV <sub>1</sub> /FVC reduced 5%	* FEV <sub>1</sub> <60% predicted * FEV <sub>1</sub> /FVC reduced >5%
	Exacerbation requiring oral systemic corticosteroids	0-1/year	>2 in 1 year	Relative annual risk of exacerbation may be related to FEV <sub>1</sub> .	

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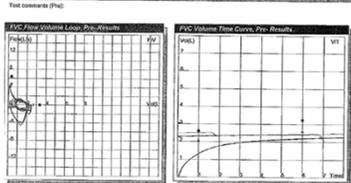
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## PFT Results

Parameter	Value	Units	% Pred	Norm	% Pred	Norm	% Pred
FEV <sub>1</sub> (L)	3.28	(CC)	75%	41.41	72%	42.28	71%
FEV <sub>1</sub> (L)	2.82		75%	0.34		0.59	77%
FEV <sub>1</sub> (L)	1.98		45%	41.50	62%	42.57	61%
FEV <sub>1</sub> (L)	1.98		45%	1.98		1.98	77%
FEV <sub>1</sub> (L)	0.43		48%	44.22	65%	44.22	65%
FEV <sub>1</sub> (L)	2.49		24%	40.87	27%	40.87	27%
FEV <sub>1</sub> (L)	1.88		—	1.88		1.78	—
FEV <sub>1</sub> (L)	0.72		—	0.75		0.86	—
FEV <sub>1</sub> (L)	0.18		—	0.27		0.23	—
FEV <sub>1</sub> (L)	0.42		—	0.39		0.40	—
FEV <sub>1</sub> (L)	0.79		30%	40.56	71%	40.54	74%
FEV <sub>1</sub> (L)	1.48		—	—		2.32	—
FEV <sub>1</sub> (L)	1.28		—	—		2.02	—



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### What therapy would you prescribe for Fred?

- A. LABA and LAMA
- B. High dose ICS and LABA
- C. Moderate dose ICS and LABA
- D. Montelukast and a LABA
- E. High dose inhaled corticosteroid

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### What therapy would you prescribe for Fred?

- A. LABA and LAMA
- B. High dose ICS and LABA
- C. Moderate dose ICS and LABA
- D. Montelukast and a LABA
- E. High dose inhaled corticosteroid

Answer: B

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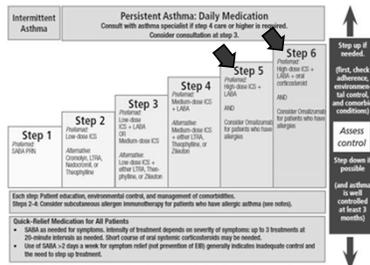
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### NHLBI therapy for asthma severity



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## What are our goals of therapy for Fred?

TABLE I. Goals of asthma treatment

Prevent chronic and troublesome symptoms  
Maintain (near-) normal pulmonary function  
Maintain normal activity levels  
Prevent recurrent exacerbations of asthma  
Provide optimal pharmacotherapy with minimal or no adverse effects  
Meet patients' and families' expectations

Based on "Expert Panel Report 2: guidelines for the diagnosis and management of asthma."<sup>1</sup>

TABLE II. Definition of well-controlled asthma

Asthma symptoms twice a week or less  
Rescue bronchodilator use twice a week or less  
No nighttime or early morning awakening  
No limitations on exercise, work, or school  
Well-controlled asthma by patient and physician assessment  
Normal or personal best PEF or FEV<sub>1</sub>

Modified from "National Asthma Education and Prevention Program Expert Panel Report: guidelines for the diagnosis and management of asthma."<sup>1</sup>  
Bateman et al.<sup>2</sup> and Nathan et al.<sup>3</sup>

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## The most common cause for failure to respond to asthma medications is??

- A. Poor technique
- B. Non-adherence
- C. Underestimation of asthma severity by doctors
- D. Underestimation of asthma severity by patients

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## The most common cause for failure to respond to asthma medications is??

- A. Poor technique
- B. Non-adherence
- C. Underestimation of asthma severity by doctors
- D. Underestimation of asthma severity by patients

Answer: B

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**The second most common cause for failure to respond to asthma medications is??**



<http://www.youtube.com/watch?v=dMAS2551bM8>

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**Finishing Fred's visit:**

- We educated Fred about the need to be adherent to therapy
- We prescribed a High dose ICS with LABA
- We instructed him on technique and asked him to demonstrate his technique
- Reinforced to use albuterol as needed
- Reinforced his use of nasal steroid
- Asthma action plan
- Educated him about mite, dog and mold avoidance
- Follow-up in 1 month

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**Follow up**

- Patient reevaluated in a month
- Showing improvement on feels he is doing well and within a week of starting therapy he felt his asthma was controlled
- Denied night time symptoms over the past 4 weeks
- Denied the need for albuterol in the past week
- He has not had any limitation on his activities
- He has not needed to initiate his action plan and start oral corticosteroids
- He denied any atopic dermatitis
- Nasal congestion is better but not fully controlled

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### What is Fred's asthma control?

- A. Well controlled
- B. Not controlled
- C. Very poorly controlled
- D. Mild persistent
- E. Moderate persistent

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### What is Fred's asthma control?

- A. Well controlled
- B. Not controlled
- C. Very poorly controlled
- D. Mild persistent
- E. Moderate persistent

Answer: A

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### Assessing Asthma Control in Patients ≥12 Years of Age & Adults

Components of Severity		Classification of Asthma Control (Youths ≥12 years of age & adults)		
		Well Controlled	Not Well Controlled	Very Poorly Controlled
Impairment	Symptoms	≤2 days/week	>2 days/week	Throughout the day
	Nighttime awakenings	≤2/month	1-3x/week	≥4x/week
	Interference with normal activity	None	Some limitation	Extremely limited
	Short-acting beta <sub>2</sub> -agonist use for symptom control	≤2 days/week	>2 days/week	Several times per day
	FEV <sub>1</sub> or peak flow	>80% predicted/personal best	60-80% predicted/personal best	<60% predicted/personal best
	Validated questionnaires*			
	ATAQ	0	1-2	3-4
	ACQ	≤0.75	≥1.5	N/A
	ACT	≥20	16-19	≤15
Risk	Exacerbations	0-3/year	≥2/polyyear	≥2/polyyear
	Progressive loss of lung function <small>*Transverse related outcome effects</small>	Evaluation requires long-term follow-up care.		

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### What would you do with his therapy at this time?

- A. Eliminate his LABA
- B. Drop his ICS to low dose
- C. Drop his inhaled steroid to moderate dose
- D. Change the LABA to montelukast
- E. Not change his therapy

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### What would you do with his therapy at this time?

- A. Eliminate his LABA
- B. Drop his ICS to low dose
- C. Drop his inhaled steroid to moderate dose
- D. Change the LABA to montelukast
- E. Not change his therapy

Answer: E

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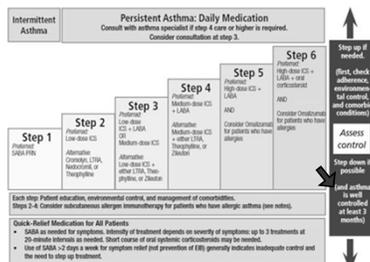
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### Treatment based on asthma control



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**At Fred’s appointment we did the following:**

- Discussed adherence
- Watched his technique
- Reviewed his nasal steroid technique
- Reviewed his asthma action plan
- Reviewed environmental avoidance
- Setup a follow-up in 3 months

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**Assessing Asthma Control: “Rules of Two”**

- If the answer to any of the following questions is yes, control is inadequate and additional therapy is needed:
  - Do you take your quick relief inhaler more than 2 times a WEEK?
  - Do you awaken at night with asthma more than 2 times a MONTH?
  - Do you have daytime symptoms more than twice a WEEK?
  - Attacks more than twice a YEAR?
  - Are your activities restricted?

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**Key Points**

- Develop patient/doctor partnership
- Ensure adherence
- Ensure good technique
- Identify and reduce risk factors like tobacco, pollution, occupational or allergens exposure
- Immunize for Influenza and or Pneumococcus as per guidelines
- Treat to achieve control
- Consider stepping up or stepping down on each visit as determined by questions used for determining control

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## Questions?

Questions submitted during the webinar will be addressed at this time.

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## Part II Webinar - October 16, 2013 *The Importance of Inhaled Steroids and Improving Effectiveness*

We look forward to you joining us for Part II of our webinar series!

### Learning Objectives:

- Understand the effectiveness of inhaled steroids.
- Describe how better compliance equals better outcomes in asthma management.
- Improve asthma control.

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## CME Certificate

1. Open email from AmeriHealth Caritas with the link to the post-test/evaluation.
2. Forward the email to other participants at your site.
3. Complete post-test and evaluation.
4. Submit the online post-test/evaluation to receive your CME Certificate.
5. Follow link to download your CME certificate from the PAFP.

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### More CME from the PAFP

- Oct. 2–Nov. 6 (free) | Regional Lecture Series  
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- >> Registration and more info at [www.pafp.com](http://www.pafp.com)

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**Thank You!**

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