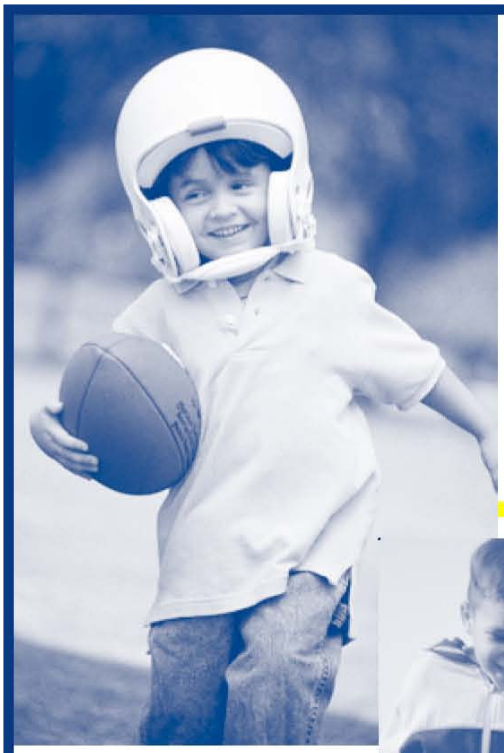
Physician Asthma Care Education



Training Manual & Speaker's Guide

Physician Asthma Care Education (PACE) is a project of the Center for Managing Chronic Disease at the University of Michigan.

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Manual Outline

Rationale and Aims
OF THE PROGRAM

Although our understanding of the pathogenesis and treatment of asthma has increased greatly in recent years, morbidity and mortality from asthma are on the rise. Although better treatments for asthma are available, either physicians are not using the treatments, or patients are not following physicians' recommendations.

Some professionals have been slow to adopt new asthma therapies for a variety of reasons. Cost, perceived inconvenience, resistance from patients, and the belief that patient education will take too much time all play a role in keeping new therapies out of clinicians' treatment plans.

However, many patients whose clinicians are recommending the latest, best therapy for asthma still suffer from poorly managed asthma. Research shows that many clinicians do not use the most effective strategies for communicating with and providing education for patients. Patients are not satisfied with clinicians' communication or with the quality of education they provide about disease and therapy.

This program aims to address both these problems. It provides education for clinicians in how to use the best current therapy for asthma. It provides information on how to better communicate with patients and teach them, so that they will be able to take advantage of the clinicians' recommendations. We believe that better care will result from building a partnership between patients and their health professionals.

Theoretical Basis of the Program:
APPLICATION OF SELF-REGULATION THEORY

Social cognitive theory provides the theoretical foundation for the intervention. One principle of this theory, self-regulation, has been studied extensively as a way to improve learning. Research has been shown that learning is enhanced by self-regulation, that is, the learner's efforts to observe, evaluate, and react to his or her own responses to a problem.

When learners self-observe, develop strategies to reach goals, and evaluate the success of these strategies, they gain an increased sense of self-confidence (self-efficacy), greater intrinsic motivation, and higher academic achievement. The seminar uses a self-regulation format to present new material to be learned and behaviors to be performed, an approach that appeals to clinicians.

Clinicians make decisions and take action based on previous experiences and the consequences they anticipate. When desired consequences are achieved, behavior is reinforced. This increases the clinician's motivation to use the behavior again. The motivation is experienced as an increased sense of self-efficacy and confidence that the behavior can be used again successfully to achieve similar or better results.

The seminar enables clinicians to use self-regulation to improve their treatment decisions and delivery of self-management education for the family. It provides clinicians with education strategies and tools that can easily be introduced into their ongoing practice, requiring minimal increases in time but having maximum impact on the patient's ability to retain and use treatment advice and education. Clinicians will also be taught to self-regulate their ability to use these tools successfully with patients.

Tips for Running the Seminar

The following are general tips for running the seminar. In addition, each segment is preceded by a "tips for instructors" section, which provides more specific suggestions.

The program consists of two 2 1/2 hour sessions held about a week apart. If you will be conducting a pre and post program evaluation (see Physician Survey in the PACE materials), you will want to add 15 minutes before the first session begins and 15 minutes at the end of the second session. It is most effective whenever possible to hold the second session about a week after the first in order to give participants an opportunity to try out the concepts learned in the first session. Their experiences can then be discussed at the second session.

The seminar works best when there are three instructors: (1) a primary care provider, (2) an asthma specialist, and (3) a health educator. The primary care provider should be a respected and well-known physician in the community. He or she introduces each of the segments, leads the case discussions in session 2, segment 2, and presents the last segment on coding, documentation, and reimbursement, to help other primary care providers implement this new material in everyday practice. The asthma specialist, (i.e., a pulmonologist or allergist) presents clinical aspects of asthma in session 1, segment 1 and adds an additional perspective to the case discussions in session 2, segment 2. Finally, the health educator should lead session 1, segment 2 on patient communication and session 2, segment 1 on patient education.

In terms of group size, eight to ten clinicians is ideal. A smaller group tends to limit the discussion, and in a larger group, some members may not get a chance to participate.

The sessions should be held in comfortable surroundings where audiovisual equipment is available. You will need a VCR and television monitor. A microphone can be helpful, but we recommend that the speakers do not stand behind a podium.

You will also want to prepare a "tool kit" for each participant (see page 10 and also the "PACE Program" handout).

Serving refreshments before the session can be a way to "break the ice." Soft drinks and snacks should be available throughout the session, but we found that a formal break in the middle of the session was not a good idea as it broke up the flow of the presentations.

A practice run of the sessions is enormously helpful in ironing out problems before the start of the formal sessions. Previewing the video is a requirement for success. You can obtain the PACE program video via the PACE website or by contacting the National Heart, Lung, and Blood Institute (NHBLI).

It is important that you provide incentives for participation in the program. Stressing the cost-effectiveness of the program's recommendations may appeal to some. Better asthma care in the office can reduce referrals to specialists and emergency department visits. This is a special plus for those practicing in managed care. Also, when patients become better self-managers, the clinician saves time. Educational materials for clinicians to give to patients are a major incentive for participation. CME credit can be arranged for participants. The fact that a rigorous evaluation of the program showed positive changes in physicians' behavior, patient health status, and health care utilization may be motivating to some clinicians. Finally, we've also included practical tips for documentation, coding, and reimbursement strategies for asthma counseling and education.

Tips for Running the Seminar

Program Overview: Session 1

Segment 1:

CLINICAL ASPECTS OF ASTHMA AND THE LONG-TERM TREATMENT PLAN

This segment is a slide presentation. On the left-hand side of each page of this manual in the section titled "Slides, Scripts and Instructions" you will find hard copies of each slide. To the right of each slide are suggested "additional comments." The instructor should read each slide aloud. The spoken points can be used as a guide to elaborate on the ideas presented on the slides.

SLIDE PRESENTATION OBJECTIVES

- Provide an overview of the clinical aspects of asthma, including the goals and prescribing patterns considered the standard of practice in asthma care today.
- Introduce methods clinicians can use to teach patients to respond to changing conditions by adjusting medications at home.
- Emphasize the importance of formulating a long-term treatment plan in partnership with the family.

DISCUSSION OBJECTIVES

Using the guidelines recommended in the presentation as a framework, participants will discuss how to treat children with different patterns of symptoms.

Segment 2:

COMMUNICATION STRATEGIES

This segment consists of a slide presentation, a video demonstration, and discussion. Directions for the slide presentation are presented as described above. For the video demonstration and discussion, directions for the instructor are listed on the left side of the page, and a suggested script for each segment is listed to the right. The script is meant to be used as a general guide: the instructor can modify the script to fit his or her own presentation style. Note that Segment 2 concludes with more slides following the video presentation.

SLIDE PRESENTATION OBJECTIVES

- Provide a theoretical framework which, when used to guide communication and behavior, can increase the likelihood that patients will follow clinician recommendations.
- Explain why good communication is essential.

VIDEO OBJECTIVES

- Demonstrates communication techniques, which have been shown to enhance patient satisfaction with medical care and increase adherence to the treatment plan.

DISCUSSION OBJECTIVES

Participants will review the techniques depicted in the video and discuss ways the techniques can be tailored to fit each clinician's own style and practice.

ASSIGNMENTS FOR NEXT SESSION

- Participants are asked to try during the following week one or more communication techniques they have not yet tried to see how they work with their patients.
- They are asked to observe and rate their own communication behavior using protocols provided.
- Participants are asked to bring in an asthma case from their practice for discussion during the next session.

Program Overview: Session 1

Program Overview: Session 2

Segment 1:

PATIENT EDUCATION MESSAGES

This segment is organized as a video demonstration and discussion. Again, directions for the instructor are listed.

VIDEO OBJECTIVES

- Demonstrate the basic messages patients and families must receive in order to effectively manage asthma on a day-to-day basis.

DISCUSSION OBJECTIVES

Participants will discuss how best to provide the educational messages depicted in the video. What are some barriers to getting the messages across, and how can they be overcome?

Segment 2:

CLINICAL CASE DISCUSSION

This segment consists of a discussion of cases of two types. First is three cases provided by participants from their clinical experience. Directions and script are presented as discussed above.

DISCUSSION OBJECTIVES

Participants will discuss asthma cases from their own practices. Communication and education aspects of cases will be addressed along with medical and pharmacological issues.

The physician instructor will wish to review carefully in advance the three program cases provided in Session 2, Segment 2 and prepare clinical advice and therapeutic issues to discuss with participants.

Segment 3:

DOCUMENTATION, CODING & REIMBURSEMENT

This segment demonstrates how quality care for asthma education and counseling should be properly coded and gives practical tips for implementing these strategies. This will help physicians receive appropriate reimbursement for the quality care they provide.

Program Overview: Session 2

Slides, Scripts, and Instructions

Tips for Instructors

THE MAIN POINTS TO CONVEY IN THIS SEGMENT ARE:

1. Assessment of severity forms the basis of the treatment plan

2. Appropriate asthma management requires the proper use of long term controller *and* quick relief medications

3. Because asthma symptoms are variable, families need to recognize symptoms and adjust medications at home according to the clinician's assessment of the level of asthma control and his/her long term treatment plan.

REMEMBER

The particulars of any plan are flexible and may change as newer drugs are introduced – the important point is to give a plan to the patient for adjusting medicine as needed.

Allow time for discussion, but remind participants that they will have a chance to discuss specific cases during the next session.

Session 1, Segment 1

Introduction

SUGGESTED SCRIPT -- *PRIMARY CARE PROVIDER*

We are delighted that you have agreed to take part in this seminar. I am _____.

The fact that you are here today shows that you recognize that our community does have problems with asthma and that you are dedicated in your search to learn new ways to help your patients.

The purpose of the seminar is twofold. First, we will review medical regimens considered most helpful in keeping asthma symptoms under control. Second, we will discuss communication strategies and educational messages that best enable families to manage asthma at home. There will be equal emphasis on both aspects of clinical management because both are crucial to improved asthma care.

About the "tool kit" in front of you:
a. Every one should have a "tool kit"--raise your hand if you don't have one.
b. In the tool kit you have an outline of the entire program.
c. There is also a copy of the slides so you don't have to take notes.
d. There are also copies of any materials to which a speaker might refer.
e. There are educational materials for you to use in your private practice.

Please place your pagers and cell phones on silent mode in respect for our speakers and colleagues.

Public Restrooms are located _____.

The first seminar today will cover 2 topics
a. *(Asthma Specialist's Name)* will present:
1. current concepts of therapy for asthma
2. a preventive approach to care
3. specific treatment plans for children with mild/moderate asthma
4. after the presentation, there will be time for discussion.

b. *(Health Educator's Name)* will present:
1. strategies to enhance/strengthen your communication with patients about managing asthma.
2. these strategies will help your patients adhere to the treatment plan and become better self managers.

Before (*Asthma Specialist's Name)* begins, I want to share with you some background information about asthma management. **(Begin Slide Show)**

Session 1, Segment 1

Clinical Aspects of Asthma and the Long Term Plan

SLIDE PRESENTATION -- *PRIMARY CARE PROVIDER*

Slide 1

Primary Care and Asthma

- Most common chronic disease of childhood
- Primary care providers are expected to manage most cases of asthma
- There are disincentives to frequent referral to specialists

ADDITIONAL COMMENTS

- *6.2 million children in the U.S. have asthma*
- *Most cases of asthma — perhaps 80% — can be successfully managed by the generalist in the office*
- *Primary care pediatricians are under pressure to limit referrals and emergency care visits*
- *Better management of asthma in the office can reduce referrals to specialists and trips to the emergency department*

Reference:
Forrest CB, Reid RJ. Passing the baton: HMOs' influence on referrals to specialty care. Health Affairs.1997;16:157-62.

Slide 2

Modern Paradox

- Understanding of the pathogenesis and treatment of asthma has increased
- Understanding the steps to control asthma has increased
- However, morbidity and mortality from asthma have increased worldwide

- *As we have developed more effective treatments for asthma, we have not seen a corresponding decrease in morbidity and mortality*

References:
Surveillance for Asthma—United States, 1960-1995 (CDC Surveillance Summaries). MMWR. 1998;47:1022-1025.

Busse WW, Lemanske RF. Asthma. N Engl J Med. 2001;344:350-62.

Slide 3

Some Possible Explanations

- Patients and families are not recognizing the symptoms of asthma
- Clinicians are not making the diagnosis
- Clinicians are either not providing state of the art care, or, if they are, patients are not adhering to the recommended programs

ADDITIONAL COMMENTS

- *Many factors contribute to the under diagnosis and under treatment of asthma*
- *Education of both providers and patients is the key to improving asthma care*

Reference:
Werk LN, Steinbach S, Adams WG, Bauchner, H. Beliefs about diagnosing asthma in young children. Pediatrics. 2000;105:585-90.

Slide 4

Barriers To Achieving Optimal Care

- Patients treat asthma as an acute episodic illness rather than a chronic disease
- Physicians assume that patients will put aside their own beliefs, concerns, and goals to follow the treatment plan.

- *Patients need better understanding of the role of inflammation in asthma— that is, it's there even without symptoms*
- *Physicians might assume that the patient's goals and concerns are the same as the clinician's goals*

Reference:
Kieckhefer GM, Ratcliffe M. What parents of children with asthma tell us. J Pediatr Health Care. 2000:14:122-6

Slide 5

Key Points

1. The key elements of assessment and monitoring are severity, control, and responsiveness to treatment.
2. Appropriate asthma management requires the proper use of long term control *and* quick relief medications.
3. Because asthma symptoms are variable, families need to recognize symptoms and adjust medications at home according to the clinician's assessment of control and his/her written action plan for the patient.

ADDITIONAL COMMENTS

- *There are five main points we will emphasize over the next 2 sessions.*

Slide 6

Key Points

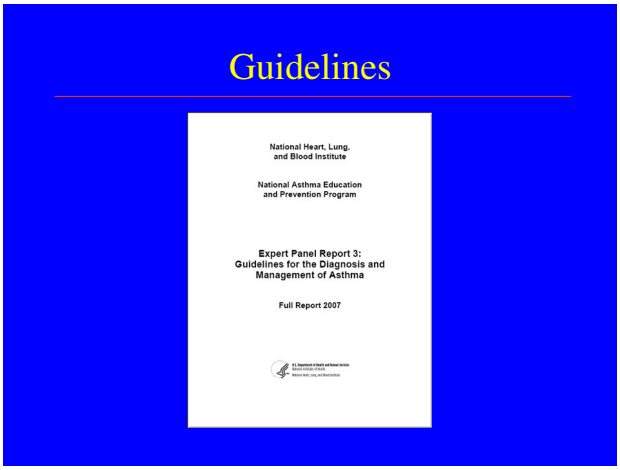
4. Good communication between patient and clinician helps identify patient concerns, makes patient teaching more effective and promotes patient self-confidence to follow the treatment plan
5. Patient education can be efficiently and effectively accomplished in several standard primary care visits

- *Studies show that good clinician communication and patient teaching does not take more time. In fact, good clinician educators take less time in a patient visit because their communication is more focused and efficient.*

Reference:

N. Clark et al., Impact of education for physicians on patient outcomes. Pediatrics.1998;101:831-6.

Slide 7



ADDITIONAL COMMENTS

- *First, some background information...*

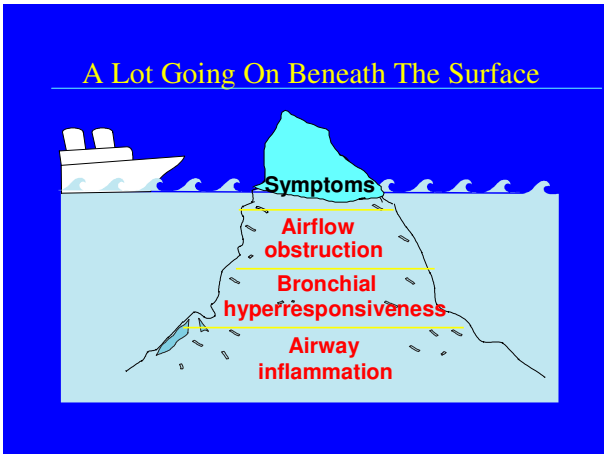
  Our reference is, "Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma." It is a set of treatment recommendations, updated August 2007,endorsed by the National Heart, Lung, and Blood Institute's (NHLBI) National Asthma Education and Prevention Program (NAEPP).

References:

National Heart, Lung, and Blood Institute's National Asthma Education and Prevention Program, Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma, NHLBI, 2007, www.nhlbi.nih.gov/guidelines/asthma/index.htm

American Academy of Allergy, Asthma and Immunology. Pediatric Asthma: Promoting Best Practice, Guide for Managing Asthma in Children. Milwaukee, Wis: AAAAI, 2002.

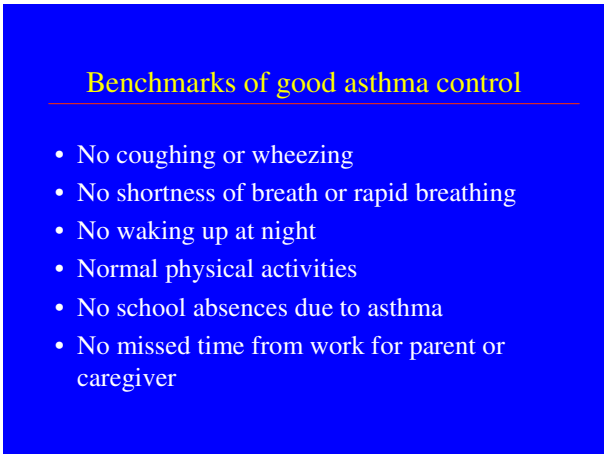
Slide 8



With asthma, what we see is the tip of the iceberg, the symptoms.

- *At the base of the iceberg is the airway inflammation.*
- *This inflammation underlies the bronchial hyperresponsiveness of asthma, the air flow obstructions, and the culmination of the inflammatory process is the tip of the iceberg, the symptoms.*
- *Active inflammation of the airways can be present for 6 to 8 weeks following a severe respiratory infection.*
- *Airflow obstruction results from bronchoconstriction, bronchial edema, mucus hypersecretion, and inflammatory cell recruitment including eosinophils, a key inflammatory cell.*

Slide 9

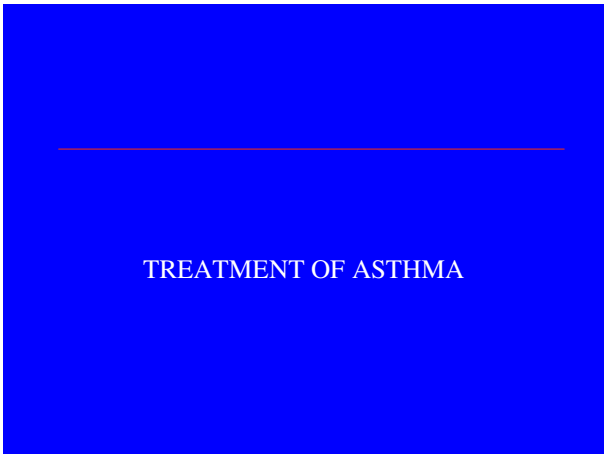


ADDITIONAL COMMENTS

- *Parents and physicians sometimes allow asthma to limit activity or expectations*
- *This slide lists benchmarks of good asthma control*
- *Which leads us to key point #1 and I will now turn the presentation over to (Asthma Specialist's Name).*

SLIDE PRESENTATION – *ASTHMA SPECIALIST*

Slide 10



Slide 11

Key Point #1

- The key elements of assessment and monitoring are severity, control, and responsiveness to treatment.

ADDITIONAL COMMENTS

- *Mention the "Rule of Two", i.e. if daytime symptoms greater than 2x/week or nighttime symptoms greater than 2x/month, then patient has persistent asthma and requires a controller medication.*
- *This slide presents the NHLBI guidelines for classifying asthma severity. Copies of the guidelines are enclosed in the educational "tool kit".*
- *For Guidelines for ages 12 and up see Appendix.*

Session 1, Segment 1 — Slide Presentation

Slide 12

CLASSIFYING ASTHMA SEVERITY AND INITIATING TREATMENT IN CHILDREN 0-4 YEARS OF AGE

Assessing severity and initiating therapy in children who are not currently taking long-term control medication

Components of Severity		Classification of Asthma Severity (0-4 years of age)			
		Intermittent	Persistent		
			Mild	Moderate	Severe
Impairment	Symptoms	≤ 2 days/week	>2 days/week but not daily	Daily	Throughout the day
	Nighttime awakenings	0	1-2x/month	3-4x/month	>1x/week
	Short-acting beta$_2$-agonist use for symptom control (not prevention of EIB)	≤ 2 days/week	>2 days/week but not daily	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year	≥ 2 exacerbations in 6 months requiring oral systemic corticosteroids, or ≥ 4 wheezing episodes/1 year lasting >1 day AND risk factors for persistent asthma		
		← Consider severity and interval since last exacerbation. Frequency and severity may fluctuate over time. Exacerbations of any severity may occur in patients in any severity category. →			
Recommended Step for Initiating Treatment		Step 1	Step 2	Step 3 and consider short course of oral systemic corticosteroids	
		In 2-6 weeks, depending on severity, evaluate level of asthma control that is achieved. If no clear benefit is observed in 4-6 weeks, consider adjusting therapy or alternative diagnosis.			

Key: EIB, exercise-induced bronchospasm

ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace the clinical decision making required to meet individual patient needs.

- Level of severity is determined by assessment of both impairment and risk. Assess impairment domain by patient's/caregiver's recall of previous 2-4 weeks and spirometry. System assessment for longer periods should reflect a global assessment such as inquiring whether the patient's asthma is better or worse since the last visit. Assign severity to the most severe category in which any feature occurs.

- At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma severity. For treatment purposes, patients who had ≥2 exacerbations requiring oral systemic corticosteroids in the past 6 months, or ≥4 wheezing episodes in the past year, and who have risk factors for persistent asthma may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

Slide 13

ASSESSING ASTHMA CONTROL AND ADJUSTING THERAPY IN CHILDREN 0-4 YEARS OF AGE

Components of Control		Classification of Asthma Control (0-4 years)		
		Well Controlled	**Not Well Controlled**	**Very Poorly Controlled**
Impairment	Symptoms	≤ 2 days/week	>2 days/week	Throughout the day
	Nighttime awakenings	≤ 1x/month	>1x/month	>1x/week
	Interference with normal activity	None	Some limitation	Extremely limited
	Short-acting $beta_2$-agonist use for symptom control (not prevention of EIB)	≤ 2 days/week	>2 days/week	Several times per day
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year	2-3/year	>3/year
	Treatment-related adverse effects	Medication side effects can vary in intensity from none to very troublesome and worrisome. The level of intensity does not correlate to specific levels of control but should be considered in the overall assessment of risk.		
Recommended Action for Treatment		•Maintain current treatment •Regular follow up every 1-6 months •Consider step down if well controlled for at least 3 months	•Step up (1 step) and •Reevaluate in 2-6 weeks •If no clear benefit in 4-6 weeks, consider alternative diagnoses or adjusting therapy •For side effects, consider alternative treatment options	•Consider short course of oral systemic corticosteroids •Step up (1-2 steps), and •Reevaluate in 2 weeks •If no clear benefit in 4-6 weeks, consider alternative diagnoses or adjusting therapy •For side effects, consider alternative treatment options

Key: EIB, exercise-induced bronchospasm

ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace, the clinical decision making required to meet individual patient needs.
- The level of control is based on the most severe impairment or risk category. Assess impairment domain by caregiver's recall of previous 2-4 weeks. Symptom assessment for longer periods should reflect a global assessment such as inquiring whether the patient's asthma is better or worse since the last visit.
- At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma control. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate poorer disease control. For treatment purposes, patients who had ≥ 2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have not-well-controlled asthma, even in the absence of impairment levels consistent with not-well-controlled asthma.
- Before step up in therapy:
  - Review adherence to medications, inhaler technique, and environmental control
  - If alternative treatment option was used in a step, discontinue it and use preferred treatment for that step.

Slide 14

CLASSIFYING ASTHMA SEVERITY AND INITIATING TREATMENT IN CHILDREN 5-11 YEARS OF AGE

Assessing severity and initiating therapy in children who are not currently taking long-term control medication

Components of Severity		Classification of Asthma Severity (5-11 years of age)			
		Intermittent	Persistent		
			Mild	Moderate	Severe
Impairment	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$_2$-agonist use for symptom control (not prevention of EIB)	≤ 2 days/week	>2 days/week but not daily	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
	Lung function	•Normal FEV_1 between exacerbations •FEV_1 > 80% predicted •FEV_1/FVC >85%	•FEV_1 = >80% predicted •FEV_1/FVC >80%	•FEV_1 = 60-80% predicted •FEV_1/FVC =75-80%	•FEV_1< 60% predicted •FEV_1/FVC <75%
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year (see note)	≥ 2/year (see note) →		
		← Consider severity and interval since last exacerbation. → Frequency and severity may fluctuate over time for patients in any severity category			
		Relative annual risk of exacerbations may be related to FEV_1			
Recommended Step for Initiating Treatment		Step 1	Step 2	Step 3, medium-dose ICS option	Step 3, medium-dose ICS or step 4
		In 2-6 weeks,, evaluate level of asthma control that is achieved, and adjust therapy accordingly		and consider short course of oral systemic corticosteroids	

Key: EIB, exercise-induced bronchospasm; FEV1, forced expiratory volume in 1 second; FVC, forced vital capacity; ICS, inhaled corticosteroids

Note: At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma severity. In general, more frequent and intense exacerbations (e.g. requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, patients who had ≥ 2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace the clinical decision making required to meet individual patient needs.

- Level of severity is determined by assessment of both impairment and risk. Assess impairment domain by patient's /caregiver's recall of previous 2-4 weeks and spirometry. Assign severity to the most severe category in which any feature occurs.

- At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma severity. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, patients who had ≥2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

Session 1, Segment 1 — Slide Presentation

Slide 15

ASSESSING ASTHMA CONTROL AND ADJUSTING THERAPY IN CHILDREN 5-11 YEARS OF AGE

Components of Control		Classification of Asthma Control (5-11 years of age)		
		Well Controlled	**Not Well Controlled**	**Very Poorly Controlled**
Impairment	Symptoms	≤ 2 days/week but not more than once on each day	>2 days/week or multiple times on ≤ 2 days/week	Throughout the day
	Nighttime awakenings	≤ 1x/month	≥ 2x/month	≥ 2x/week
	Interference with normal activity	None	Some limitation	Extremely limited
	Short-acting beta$_2$-agonist use for symptom control (not prevention of EIB)	≤ 2 days/week	>2 days/week	Several times per day
	Lung function •FEV_1 or peak flow •FEV_1/FEV	•>80% predicted/ personal best •>80%	•60-80% predicted/ personal best •75-80%	•<60% predicted/personal best •<75%
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year	≥ 2/year (see note)	
		Consider severity and interval since last exacerbation		
	Reduction in lung growth	Evaluation requires long-term follow up.		
	Treatment-related adverse effects	Medication side effects can vary in intensity from none to very troublesome and worrisome. The level of intensity does not correlate to specific levels of control but should be considered in the overall assessment of risk.		
Recommended Action for Treatment		•Maintain current step. •Regular follow up every 1-6 months. •Consider step down if well controlled for at least 3 months.	•Step up at least 1 step and •Reevaluate in 2-6 weeks. •For side effects: consider alternative treatment options.	•Consider short course of oral systemic corticosteroids, •Step up 1-2 steps, and •Reevaluate in 2 weeks. •For side effects, consider alternative treatment options.

Key: EIB, exercise-induced bronchospasm; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity

Note: At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma severity. In general, more frequent and intense exacerbations (e.g. requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, patients who had ≥ 2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace, the clinical decision making required to meet individual patient needs.
- The level of control is based on the most severe impairment or risk category. Assess impairment domain by patient's/caregiver's recall of previous 2-4 weeks and by spirometry/or peak flow measures. Symptom assessment for longer periods should reflect a global assessment such as inquiring whether the patient's asthma is better or worse since the last visit.
- At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma control. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate poorer disease control. For treatment purposes, patients who had ≥ 2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.
- Before step up in therapy:
  - Review adherence to medications, inhaler technique, environmental control, and comorbid conditions.
  - If alternative treatment option was used in a step, discontinue it and use the preferred treatment for that step.

-See Appendix for classification and treatment for children 12 years of age and over.-

Slide 16

CASE STUDIES OF ASTHMA SEVERITY

ADDITIONAL COMMENTS

- *Let's look at a few case studies...*

Slide 17

Case Study 1

A 3 year-old boy is brought by his mother for evaluation of worsening asthma symptoms.

He was diagnosed with asthma several months ago by your partner. The patient has been using an inhaled short-acting bronchodilator (β_2-agonist) as needed for symptoms of wheezing and shortness of breath. The patient and his mother now report that he has daytime symptoms approximately 3 times per week but no nighttime symptoms.

What severity of asthma illness does this patient have?

Answer:

Mild persistent asthma since he has greater than 2 days/week with symptoms

- *This case emphasizes the rule of two.*
- *NOTE: NHLBI Classification of Severity chart follows each case study.*

Slide 18

Case Study 2

A 19 year-old college student comes in for a routine follow-up visit for asthma.

She was diagnosed when she was 8 years old. She "feels fine" and is not bothered by her asthma. On further questioning, you learn that she is doing poorly in her first class of the day because she has difficulty waking up in time to attend lecture. She states that sometimes this results from staying up late to talk with friends, but at other times she "tosses and turns all night coughing." She thinks that she is having trouble sleeping twice a week.

What severity of asthma illness does this patient have?

ADDITIONAL COMMENTS

Answer:

Moderate persistent asthma since she has nights with symptoms 8 times per month.

- *This case emphasizes the importance of asking about nighttime symptoms.*

Slide 19

Case Study 3

A 6 year-old boy with a history of asthma comes to your office for the first time in August for a school physical exam.

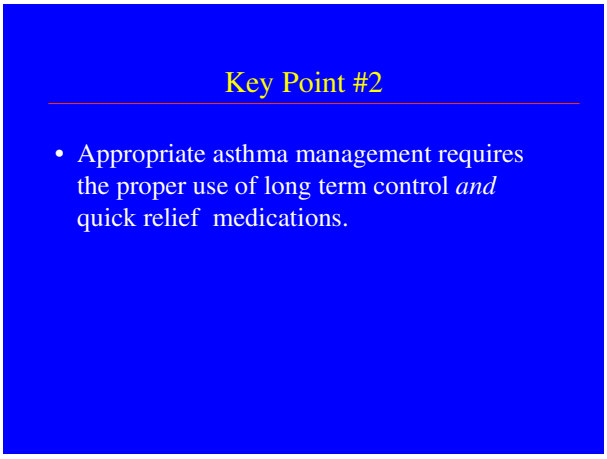
He has no asthma symptoms now, but his mom states that usually "around the change of seasons" he starts wheezing and coughing often. The symptoms occur everyday, but only during the day.

What severity of asthma illness does this patient have?

Answer:
Moderate persistent asthma since he has daily symptoms during that season. He may be mild persistent or intermittent during the rest of the year.

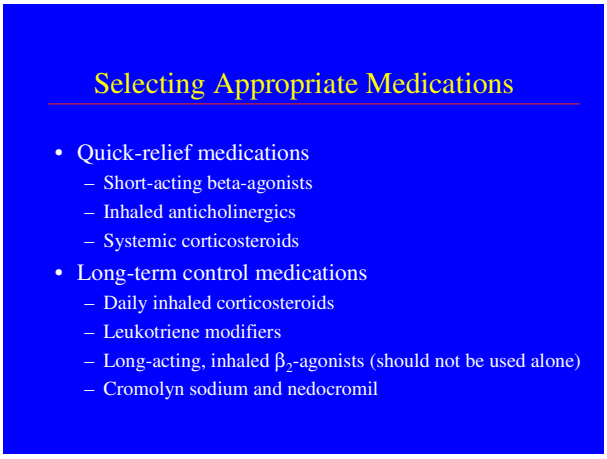
- *The important message is that severity of illness changes throughout the year.*

Slide 20



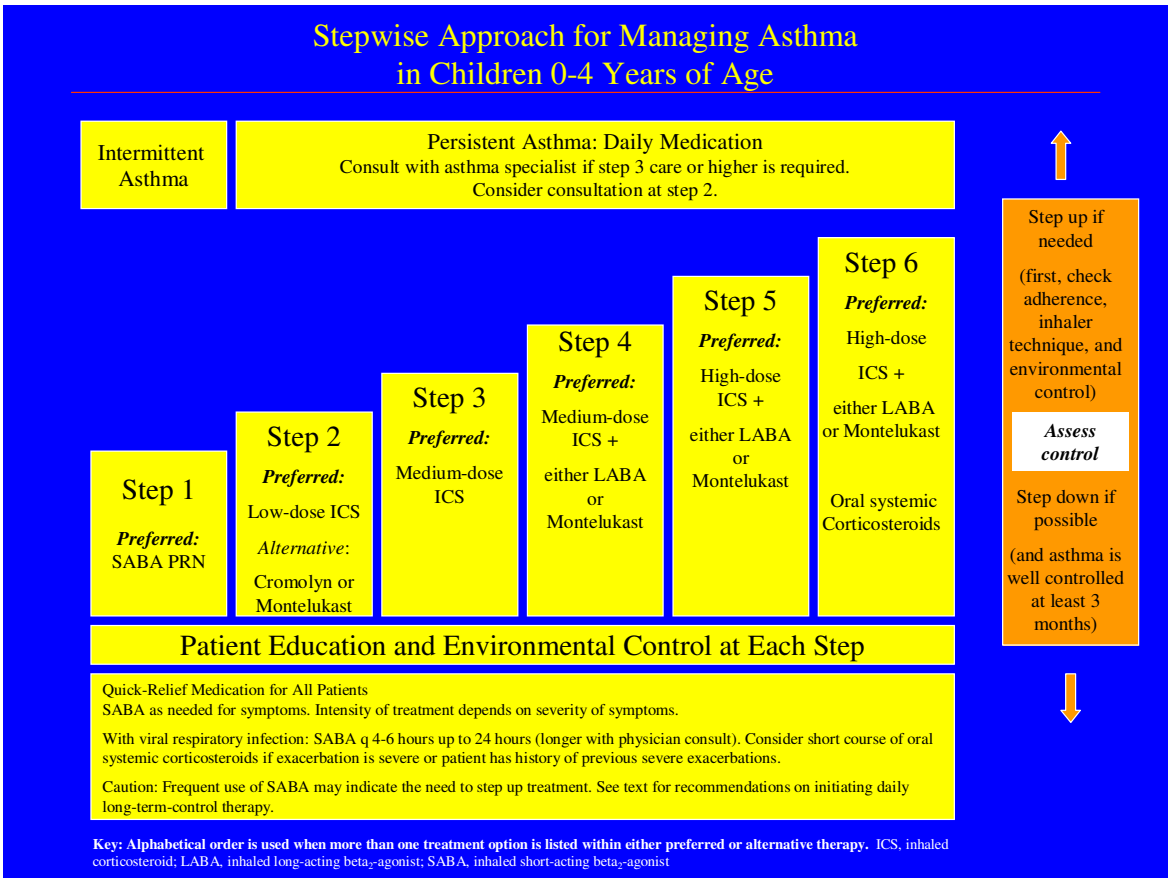
ADDITIONAL COMMENTS

Slide 21



- *The NHLBI guidelines distinguish between quick relief medications and long term control medications.*
- *Note that daily inhaled corticosteroids are the most effective long term control medication.*
- *Increase from lower to higher dose before introducing adjunctive therapy*
- *Evidence for selection of adjunctive therapy is limited in both age groups. Recommendation should consider extent of impairment and risk.*

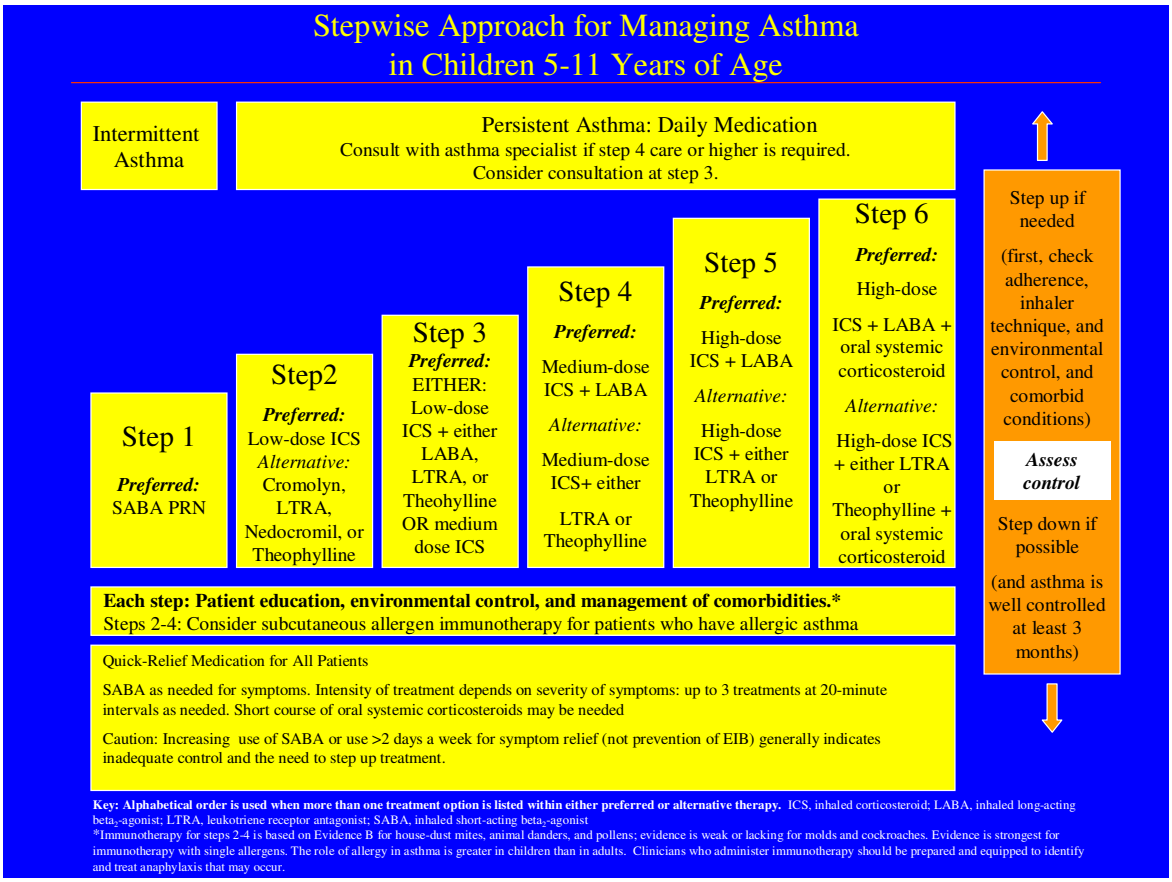
Slide 22



ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace, the clinical decision making required to meet individual patient needs.
- If alternative treatment is used and response is inadequate, discontinue it and use the preferred treatment before stepping up.
- If clear benefit is not observed within 4-6 weeks and patient/family medication technique and adherence are satisfactory, consider adjusting therapy or alternative diagnosis.
- Studies on children 0-4 years of age are limited. Step 2 preferred therapy is based on Evidence A. All other recommendations are based on expert opinion and extrapolation from studies in older children.

Slide 23

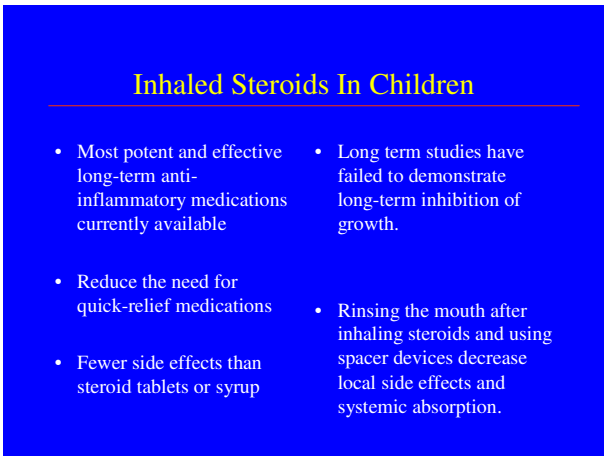


ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace, the clinical decision making required to meet individual patient needs.
- If alternative treatment is used and response is inadequate, discontinue it and use the preferred treatment before stepping up.
- Theophylline is a less desirable alternative due to the need to monitor serum concentration levels.
- Step 1 and step 2 medications are based on Evidence A. Step 3 ICS + adjunctive therapy and ICS are based on Evidence B for efficacy of each treatment and extrapolation from comparator trials in older children and adults – comparator trials are not available for this age group; steps 4-6 are based on expert opinion and extrapolation from studies in older children and adults.
- Immunotherapy for steps 2-4 is based on Evidence B for house-dust mites, animal danders, and pollens; evidence is weak or lacking for molds and cockroaches. Evidence is strongest for immunotherapy with single allergens. The role of allergy in asthma is greater in children than in adults.
- Clinicians who administer immunotherapy should be prepared and equipped to identify and treat anaphylaxis that may occur.

-See Appendix for a stepwise approach for children 12 years of age and over.-

Slide 24

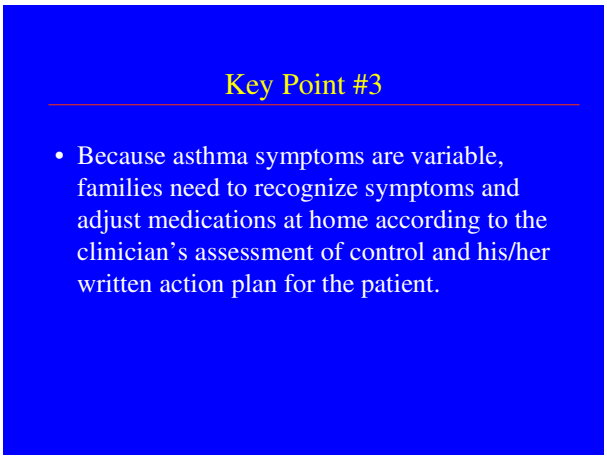


ADDITIONAL COMMENTS

- *There is still considerable controversy that inhaled steroids may inhibit growth in children, but here is what we know now.*

Reference:
Peterson, S. Do inhaled corticosteroids inhibit growth in children? Am J Resp Crit Care Med.2001;164:521-35

Slide 25



Slide 26

Key Features of an Asthma Action Plan

- Written plan should be keyed to severity and level of control and should include:
  - Daily management as well as early recognition and actions for exacerbations
  - Medication names (trade and generic)
  - How much to take and when to take it

ADDITIONAL COMMENTS

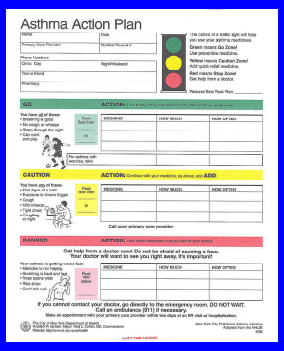
- *There are many asthma action plans that can be useful. Here are key features to include in any successful action plan...*
- *These plans are designed for common cases. The unusual or very severe patients will need to be referred to specialists.*

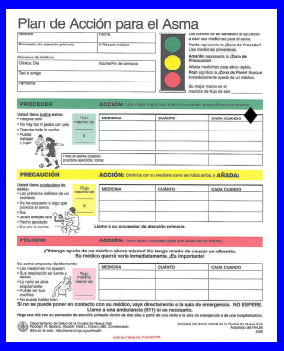
Reference:
Charlton I, et al. Evaluation of peak flow and symptoms only self management plans for control of asthma in general practice. BMJ. 1990;301:1355-9.

Woolcock AJ, et al. Effect of therapy on bronchial hyperresponsiveness in the long term management of asthma. Clin Allergy. 1988;18:165-76.

Slide 27

Asthma Action Plan Examples





- *Here are two versions of one example...*
- *This treatment plan is popular because the simple analogy (traffic light) is easy to understand.*
- *Directions are clear.*
- *There are other completed examples in your binder*

Slide 28

SAMPLE LONG TERM TREATMENT PLAN
FOR MILD PERSISTENT ASTHMA

CLINICAL CONDITION	Baseline Plan & When asthma is under control	At the **FIRST** sign of a cold or mild asthma attack	For rapidly worsening asthma (severe attack)	When there is no cough or wheeze for 3 months	For cough or wheeze with exercise
PEAK FLOW (% predicted) FEV_1/FVC	Above 80%	75 to 80%	Below 75%	Over 80% for 3 months	
MEDICATION *Reliever:* Inhaled short-acting $beta_2$-agonist Albuterol	2 puffs as needed				
Controller: 1) Inhaled low dose corticosteroid Beclomethasone, 42 mcg	1-4 puffs 2x/day				
or 2) Leukotriene modifier					
Corticosteroid Tablet or Syrup	0				

ADDITIONAL COMMENTS

- *Here's another type of action plan.*
- *For some patients, focusing on long-term treatment goals and discussing the "big picture" of asthma control and how medications can be adjusted over time may improve adherence.*
- *Evaluation of PACE has indicated that giving the patient this long term view enhances significantly desired clinical outcomes.*
- *Let's review this action plan for a child with mild persistent asthma.*

Reference:
Mellins et al. Developing and communicating a long-term treatment plan for asthma. American Family Physician. 2000;61:2419-26

Slide 29

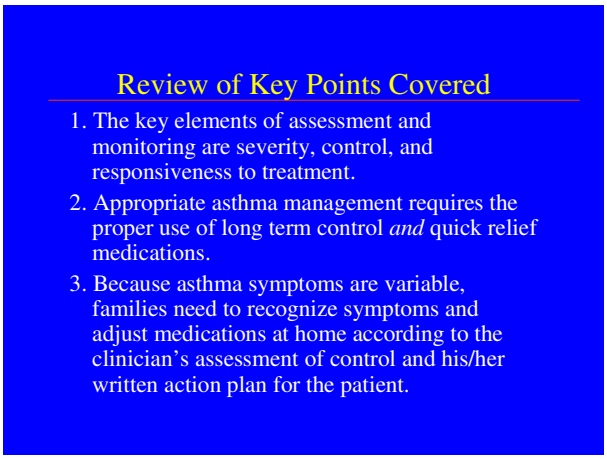
SAMPLE LONG TERM TREATMENT PLAN

FOR MILD PERSISTENT ASTHMA

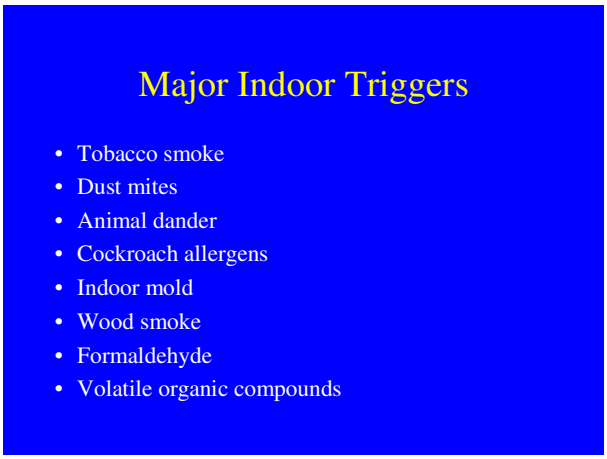
CLINICAL CONDITION	Baseline Plan & When asthma is under control	At the **FIRST** sign of a cold or mild asthma attack	For rapidly worsening asthma (severe attack)	When there is no cough or wheeze for 3 months	For cough or wheeze with exercise
PEAK FLOW (% predicted) FEV1/FVC	Above 80%	75 to 80%	Below 75%	Over 80% for 3 months	2 puffs 5-10 minutes before exercise
MEDICATION *Reliever:* Inhaled short-acting $beta_2$-agonist Albuterol	2 puffs as needed	2 puffs every 4 hr	2-6 puffs every 20 minutes for 3 doses then 2-4 puffs every 4 hr	2 puffs as needed	
Controller: 1) Inhaled low dose corticosteroid Beclomethasone, 42 mcg	1-4 puffs 2x/day	1-4 puffs 2x/day	1-4 puffs 2x/day	0	
or 2) Leukotriene modifier				1 tablet* per day	
Corticosteroid Tablet or Syrup	0	0	Begin with 1-2 mg/kg/day **NOTIFY MD**	0	

* If patients develops symptoms when corticosteroid discontinued, either resume corticosteroids or try leukotriene modifier

Slide 30



Slide 31



These plans are designed for the majority of patients. We'll have a chance to discuss specific cases next time.

We would like everyone to bring in a case for discussion – a patient that you would like to continue treating, not one that you are planning to refer to a specialist – and we will talk about how the strategies we have recommended can be applied.

For now do you have questions regarding what we have covered today?

WRAP UP -- *PRIMARY CARE PROVIDER*

Thank you *(Asthma Specialist's Name).* We will now take a short break.

(Health Educator's Name) will now present a slide show and video on communication strategies.

Tips for Health Educators

THE MAIN POINTS TO CONVEY IN THIS SEGMENT ARE:

- Patient non-adherence to clinician recommendations is a significant problem for all providers.
- Ten simple communication strategies can significantly improve the interaction with the patient.
- Good communication can increase patient knowledge, satisfaction, and compliance.
- Evaluations of PACE have shown that using these strategies does not take extra time. Physicians who use effective communication techniques have been shown to spend no more time with their patients than those who do not.
- Clinicians may be less interested in this segment or may initially believe it is irrelevant to their practice. Evaluation of the program (N.M. Clark et al. *Pediatrics* Vol 101, No 5, page 831-836, 5 May, 1998) showed that change in patients' health status and health care use only occurred with both effective medicine and the type of health education discussed in PACE.

REMEMBER

Most clinicians think they are good communicators, but studies show that most patients do not agree.

Acknowledge that most clinicians probably already employ some of the communication strategies. Encourage them to become more aware of their interactions with patients, or to try out some strategies that they do not already use. Encourage them to use the protocols you will provide to monitor their own communication skills in the time between sessions.

Some clinicians may have different personal styles than that of the clinician in the video. Reinforce that the strategies can be adapted to fit individual styles of communicating.

This segment should be interactive. The instructor should model the strategies recommended by using them during the discussion – ask open-ended questions, show non-verbally that the speaker is attentive to physician responses, give verbal encouragement, etc.

Communication Strategies

SLIDE PRESENTATION

Slide 1

Key Point #4

Good communication between patient and clinician helps identify patient concerns that may block adherence, makes patient teaching more effective and promotes patient self-confidence to follow the treatment plan

ADDITIONAL COMMENTS

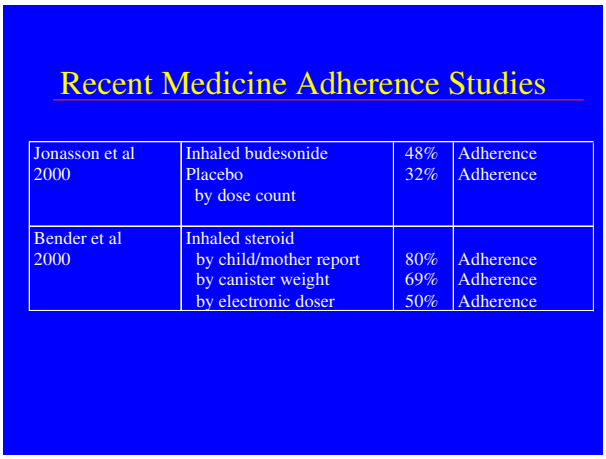
Slide 2

Background

- Excellence in medical treatment is worthless if the patient doesn't take the medicine
- Compliance is closely linked to clinician communication and patient education
- Most clinicians believe they are good communicators, but most patients feel clinician communication and education is inadequate

- *First, a little background...*
- *Clinician communication and patient education is central to a patient's compliance with the clinician's recommendations.*

Slide 3



ADDITIONAL COMMENTS

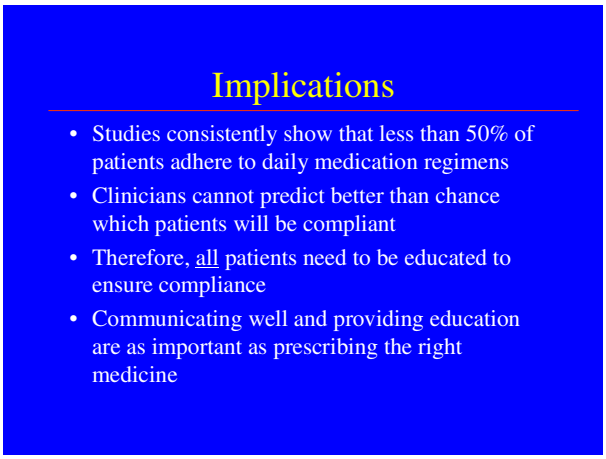
- *This slide shows some recent studies demonstrating poor compliance in asthma*
- *The first is a study by Johannson et al*
- *The second is a study by Bender et al*
- *Both studies show adherence is 50% and lower than what self-reported measures portray.*

Reference:

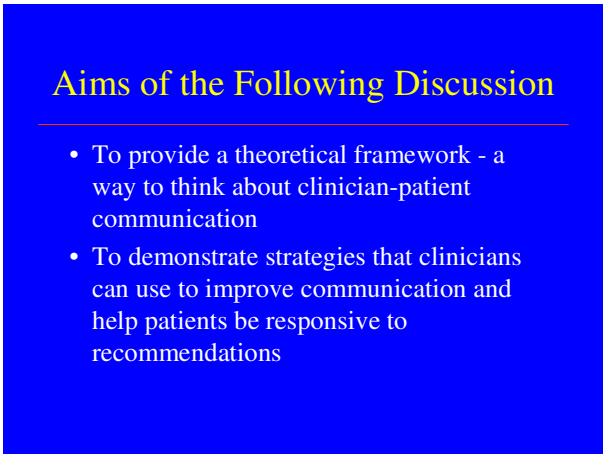
Jonasson G. et al. Asthma drug adherence in a long term clinical trial. Arch Dis Child. 2000;83:330-3.

Bender B, et al. Measurement of children's asthma medication adherence by self report, mother report, canister weight, and doser CT. Ann Allergy Asthma Imm. 2000;85:416-21.

Slide 4

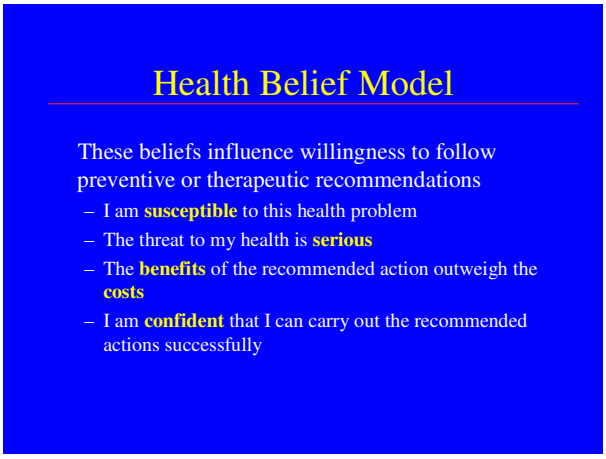


Slide 5



ADDITIONAL COMMENTS

Slide 6



- *I'd like to introduce the Health Belief Model. Numerous studies have shown that these beliefs...*

Reference:

Janz NK and Becker MH. The health belief model: A decade later. Health Education Quarterly. 1984;11: 1-47.

Slide 7

Beliefs About Susceptibility

Some families resist accepting the diagnosis because they believe that:

- Because an older relative was crippled by asthma, their child will also be crippled
- Asthma is psychologically caused or feigned by the child

Resisting the diagnosis reduces the likelihood that the family will follow the treatment plan

ADDITIONAL COMMENTS

- *These susceptibility beliefs are sometimes the main concern when patients come to see the clinicians, and discussion with the clinician can help dispel them.*

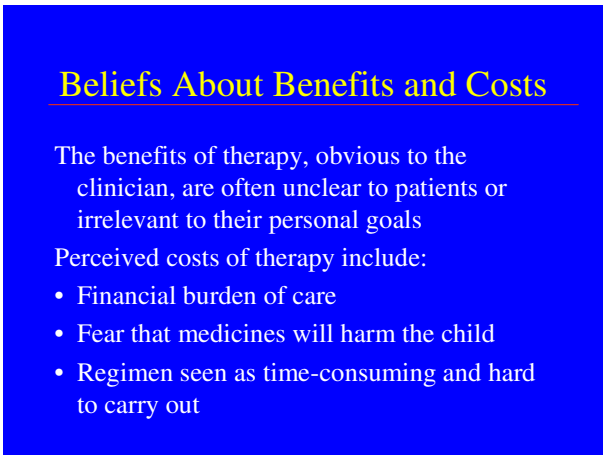
Slide 8

Beliefs About Seriousness

- If the family thinks asthma is not serious, they are less likely to follow the treatment plan
- If the family overestimates the seriousness of asthma, they may follow the plan, but prevent the child from taking part in normal physical activities

- *Families need to learn that asthma is a serious disease but that by following an appropriate treatment plan, the child can be fully active.*

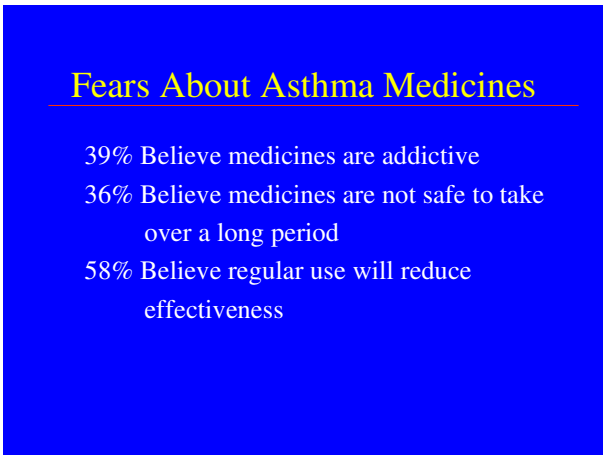
Slide 9



ADDITIONAL COMMENTS

- *The benefits of the therapy can be explicitly tied to the patient's personal goals, e.g., to play basketball, to sleep through the night, etc. In this way the "costs" of following the therapeutic plan are reduced and the physician's recommendations are seen as a way to reach one's personal goals.*

Slide 10



- *Fears about asthma medicines are an example of a perceived cost of therapy that blocks compliance.*
- *These figures are based on research conducted in a study of 445 parents of children with asthma.*
- *If parents hold these beliefs it is unlikely they will follow the treatment plan.*

Reference:
Wasilewski Y, et al. Factors associated with emergency department visits by children with asthma: implications for health education. Am J Pub Health. 1996;86:1410-5.

Slide 11

Beliefs About Ability to Carry Out Recommendations

- Research in psychology shows that when you are confident you can do something successfully:
  - You do it more often
  - You are more persistent in the face of difficulty.
- Many families lack confidence that they can manage an asthma attack at home

ADDITIONAL COMMENTS

- *For example, many families go immediately to the emergency department even for mild asthma episodes instead of beginning appropriate treatment at home.*
- *Explicit efforts to build patient confidence for self management are central to asthma control.*
- *When the physician acts as a sympathetic, encouraging coach, it helps patients gain confidence that they can manage an asthma attack at home.*

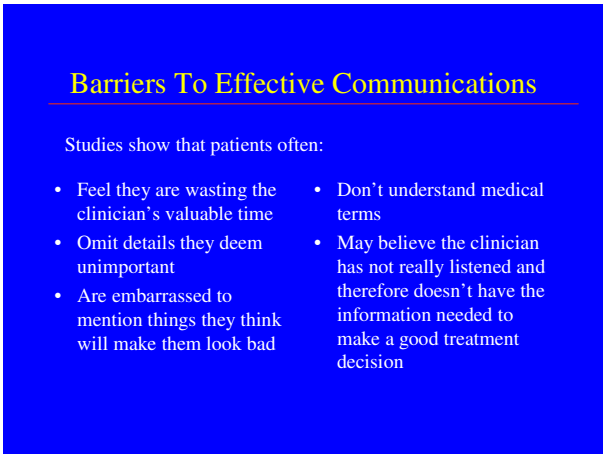
Slide 12

Implications

Therefore, the clinician must establish open communications that permit these health beliefs to be identified and discussed.

- *Open communication is important, but there are often barriers to effective communication during the office visit.*
- *Families are often reluctant to bring up their beliefs or concerns; it is important to identify them so they can be dealt with.*

Slide 13



ADDITIONAL COMMENTS

- *Now we'll show you a video for improving effective communication with patients*
- *You may note that the office visit in the video is rather lengthy. We realize this is not likely the reality in your practice, however, this vignette is used to portray all of the communication strategies. You will probably only be able to practice a few of the strategies in each of your office visits.*

Session 1, Segment 2 — Slide Presentation

SESSION 1, SEGMENT 2

Video Presentation

COMMUNICATION STRATEGIES

SUGGESTED SCRIPT – *HEALTH EDUCATOR*

Several communication strategies have been identified that clinicians can use to reduce the barriers to effective interaction and enable them to be perceived as a "sympathetic coach." Using these strategies can make the interaction go more easily, can speed up the process, and in the long run will save both time and cost.

These techniques are illustrated in a video we are going to screen. It is about 15 minutes long and is an efficient way to highlight the most effective strategies. It may be a review of material for those in the audience who already have communications training, or who have learned the hard way. For some, the ideas may be reasonably new. The video doesn't depict everything that takes place in a visit. The main purpose is to show the communication strategies in action.

Your personal style may be different from that of the clinician in the video. Of course, you will want to adapt the strategies to fit your own individual style.

What strategies depicted do you find to be effective?

♦ Introduce video Part I

SHOW VIDEO

♦ Show video Part 1: Communication Strategies

VIDEO DISCUSSION QUESTIONS

♦ Discuss video, with goal of getting participants to share their experience. The questions serve as triggers to discussion-they need not all be asked.

What are your reactions to how the clinician handled Michael's concerns?

Which of these communication strategies do you feel comfortable using? Which do you feel uncomfortable using?

Which of these strategies are easiest to use given a very constrained time frame for seeing the patient?

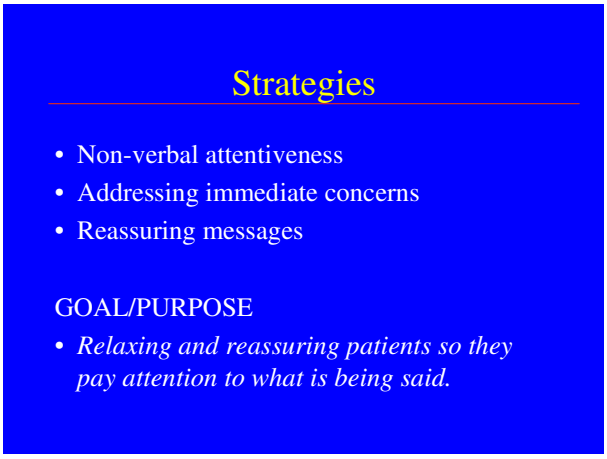
In your experience, which strategies are most effective? Which strategies are not effective? What makes you think they are effective (or not effective)?

[For each strategy]: do you use this strategy? Why? Why not?

What are the most effective communication behaviors you've used?

♦ Complete slide presentation slides 16 through 23

Slide 14



ADDITIONAL COMMENTS

- *Now let's review the purpose of each strategy shown in the videotape. Let me emphasize that these strategies have been evaluated as part of a clinical trial with pediatricians.*

Reference:
Clark N, et al. Impact of education for physicians on patient outcomes. Pediatrics. 1998;101:831-36.

Slide 15

Slide 16

Strategies

- Tailoring messages
- Planning for decision making
- Goal setting

GOAL/PURPOSE

- *Preparing patients to carry out the treatment at home*

Slide 17

Strategies

- Non-verbal encouragement
- Verbal praise

GOAL/PURPOSE

- *Building self confidence needed to carry out the plan.*

Slide 18

Key Point #5

Good communication and patient education can be efficiently and effectively accomplished in several standard primary care visits

ADDITIONAL COMMENTS

Slide 19

Efficacy Trial (MD-Asthma Study)

Design:	Controlled trial
Intervention:	Asthma education seminar
Participants:	83 pediatricians
Evaluation:	Asthma care of 637 patients (2 year follow-up)

- *To see if this worked, Clark et al. conducted a controlled trial...*

Slide 20

Results from Parents

- Parents reported that the intervention pediatrician
  - was more reassuring
  - asked more about asthma management at home
  - was more likely to set a goal for child to be active
- Parents reported increased use of written plans

Slide 21

Results from Pediatricians

- Compared with controls, physicians who received the intervention showed:
  - Increased use of written plans
  - Increased use of inhaled anti-inflammatory therapy
  - More attention to patient fears
  - No additional time for patient visit

Slide 22

Patient Outcomes

- The study allowed separation of the effects of drug therapy from the effects of good communication and patient education
- Patients whose physicians provided education plus inhaled corticosteroids did better than those who received corticosteroids alone:
  - Reduced emergency room visits
  - Reduced hospitalizations
  - Reduced days with symptoms

Slide 23

Effectiveness Trial (PACE Study)

Design:	Controlled trial
Intervention:	Asthma education seminar
Participants:	101 primary care providers
Evaluation:	Asthma care of 870 patients (1 year follow-up)

Slide 24

Results

- Pediatricians were more confident in
  - developing short term goals
  - reviewing long term plans
- Parents reported that the intervention pediatrician
  - tried to find out about parents' biggest concerns
  - was more likely to encourage child to be active
  - was more likely ask if child was meeting goals

$p<0.05$ for all analyses

Slide 25

Patient Outcomes

- Patients whose physicians participated in the PACE seminar had
  - Reduced emergency room visits
  - Reduced days of daytime symptoms in the Fall
  - Reduced days with decreased activity due to asthma (Spring, Summer, Winter, & Fall)
- No impact on average patient visit time

Slide 26

In Summary

- Good communication between patient and clinician helps identify patient concerns that may block adherence, makes patient teaching more effective and promotes patient self-confidence to follow the treatment plan
- Good communication and patient education can be efficiently and effectively accomplished in several standard primary care visits

Session 1 Wrap-Up

SUGGESTED SCRIPT -- *HEALTH EDUCATOR*

Most professionals can improve their communication skills whether in medicine, law, business, or other fields. An effective way to do this is through self-observation and evaluation. The communication self-rating scale is a kind of communication crib sheet that outlines the strategies demonstrated in the video. A copy of this is located in your binder. Reviewing the form before seeing a family and completing it after a visit can alert you to areas of communication behavior where you may want to place more emphasis when interacting with a patient and parent. Using the scale initially for several weeks while you are consciously trying to change your communication style is very helpful. Thereafter, using it periodically to check yourself can help you maintain your use of the strategies.

We'll ask you to do four things to prepare for next week's seminar:

♦ Write any questions related to clinical or educational aspects of asthma on these cards. Give them to us today or at the beginning of next week's session. We will do our best to address them.

♦ Bring to the discussion next week an asthma case from your practice that you want to continue to manage-not one you'd refer to a specialist. We will ask some or all of you to describe a case so the group can analyze it.

♦ We would like you to try use one of the communication strategies we've talked about today with your patients during the coming week. You might want to pick one that you don't currently use extensively. You can use it with asthma patients and other patients, too. We will review your experience when we meet next week.

♦ Use the self-rating scale.

SUGGESTED SCRIPT -- *PRIMARY CARE PHYSICIAN*

Before you leave I have a few reminders:
1. Don't forget Part 2 of the PACE seminars is _____ at _____.
2. Remember that you must attend the entire Part 2 seminar as a prerequisite for your CME credits.
3. You won't want to miss this next seminar because we will be discussing reimbursement for asthma education.

Thanks for coming, see you next week!

Session 1 Wrap-Up

Session 2, Segment 1

Tips for Instructors

THE MAIN POINTS TO CONVEY IN THIS SEGMENT ARE:

- There is a basic core of information that the patient needs in order to manage asthma effectively

- It is possible to convey these messages within the time constraints of a busy practice
- Using images and metaphors can increase the patient's understanding of medical concepts

Clinicians may protest that they do not have time for the kind of comprehensive patient education depicted in the video. It is probably not realistic to expect clinicians to cover everything in one visit. Stress that the messages can be given to patients over a series of visits, and if they are incorporated into the visit, need not take up an excessive amount of time. Also, remind them that patient education up-front can lead to less investment of time in the long run because patients will be better able to manage on their own and follow-up visits will be much easier.

- Remember to model the communication strategies (open-ended questions, interactive conversation etc.)

- Give participants positive reinforcement if they report using the strategies. Ask them to describe their experience. Ask if anyone else has tried the same strategy.

- NOTE: There are pauses after each of three sections of the video to enable you to stop the tape and discuss the points made.

SESSION 2, SEGMENT 1

Health Education

INTRODUCTION AND VIDEO PRESENTATION

SUGGESTED SCRIPT -- *PRIMARY CARE PHYSICIAN*

Welcome back. Today we are going to focus first on the content of patient education: the key messages that you need to convey to the family so they can manage asthma effectively at home. After this, you will have a chance to discuss some specific asthma cases.

First, let's review the five key points again:

Key Points

1. The key elements of assessment and monitoring are severity, control, and responsiveness to treatment.
2. Appropriate asthma management requires the proper use of long term control *and* quick relief medications.
3. Because asthma symptoms are variable, families need to recognize symptoms and adjust medications at home according to the clinician's assessment of control and his/her written action plan for the patient.

Key Points

4. Good communication between patient and clinician helps identify patient concerns, makes patients teaching more effective and promotes patient self-confidence to follow the treatment plan
5. Patients education can be efficiently and effectively accomplished in several standard primary care visits

Now, we'll turn the presentation over to (*Health Educator's Name)*

Session 2, Segment 1 — Introduction and Video Presentation

SUGGESTED SCRIPT -- *HEALTH EDUCATOR*

In order to manage asthma at home effectively, patients must accept and act on the asthma messages you give them.

If you haven't heard from some of your asthma patients in a long time, or know of some who have been experiencing symptoms, a good argument can be made for contacting the families and scheduling a series of visits to get them on track, first by ensuring they are on the right regimen, and second by providing the needed basic education. As we have said, this up-front investment is well worth it down the road. Asthma education has been shown to reduce the need for emergency visits and hospitalizations among children with a history of such health care use, and also to help children do better in school.

To start our discussion, we are going to watch a second video. This video presentation outlines the core of basic messages the patient and family need to receive in order to manage asthma well at home. The video does not depict the entire proceedings of each visit (i.e., the physical exam). Rather, it provides an overview of the messages the families need.

The clinician in the video spreads the educational messages over three visits so that he can provide sufficient information about each topic. In actual practice, of course, the messages don't have to be spread over three visits – it may take more or less – nor do they have to be delivered in the order presented in the video. It is best to use your judgment about the family's need or interest to determine the order of the messages.

Session 2, Segment 1 — Introduction and Video Presentation

SUGGESTED SCRIPT -- *HEALTH EDUCATOR*

INSTRUCTIONS

We will pause in between each of the three sections of this video to discuss the messages the clinician has conveyed. At the end of the third segment of the video, we'll discuss the feasibility of this kind of patient education and the ways that you have found you can be most effective in educating your patients.

All of the messages in the video are on a handout that you will get at the end of the session, so you do not need to take notes.

- Show Video Part 2, Section 1
- Pause video after Section 1 for discussion

In this visit, Dr. Esser focused on teaching the family about:

- What happens during an asthma attack
- How medicines work
- How to take the medicines
- How to respond to changes in asthma severity

Now each of you has lots of experience delivering asthma messages. Are there any ways you have found to deliver these messages that are effective or help your patients understand asthma or learn what they need?

- Discuss Section 1 briefly

SUGGESTED SCRIPT -- *HEALTH EDUCATOR*

INSTRUCTIONS

- Show video Part 2 Section 2
- Pause video after Section 2 for discussion

In this visit, Dr. Esser focused on teaching the family about:

- Safety of medicines
- Goals of therapy
- Criteria of successful treatment

Are there ways you have found to deliver these messages that are effective or help your patients understand asthma or learn what they need?

- Discuss Section 2 briefly

- Show video Part 2, Section 3
- Pause video after Section 3 for discussion

In this visit, Dr. Esser focused on teaching the family about:

- Managing asthma at school
- Identifying and avoiding triggers
- Referral to further education

What ways do you use to communicate about these topics to your patients?

How feasible is it to do this kind of comprehensive education with your patients?

What ways have you found to do this effectively in your settings?

- Discuss how education depicted in video can be adapted to fit clinician's own practices

SUGGESTED SCRIPT -- *HEALTH EDUCATOR*

REVIEW OF COMMUNICATION SKILLS AND SELF-RATING SCALE

Did any of you try using one of the communication skills we talked about last time? How did it go? Anyone else? [try to allow each person who tried one of the skills to say what he or she did.]

What were your experiences using the self-rating scale?

Did you look at the other side of the sheet presenting the scale? It has a list of the key messages we talked about today. You can use this, as well as the handout describing the messages in more detail to help you see if you have covered all the messages you planned to in each visit.

It takes a combination of communications strategies and asthma messages to prepare the family to accept asthma and manage it effectively at home. All of these messages make an important contribution to the family's ability to control asthma and follow your treatment plan. And as you have said, it isn't really possible to deliver them all in one visit. We think this justifies scheduling a series of visits with patients who are having difficulty controlling asthma, or who you haven't seen for a while, to review their treatment plan and provide them with the teaching they need to control asthma.

Now let's turn the presentation over to *(Asthma Specialist's Name)* to look at some specific cases of visits with asthma patients.

Case Presentations

SUGGESTED SCRIPT -- *ASTHMA SPECIALIST*

We discuss cases for two reasons:

- To help clinicians apply concepts in their own practice
- To identify and resolve complex situations

Let's discuss some cases that represent common challenges facing clinicians (i.e. cases difficult to classify).

INSTRUCTIONS

- This segment requires preparation by the physician instructor. Each of the three cases should be reviewed and salient issues related to each identified to raise with participants in discussion.

Session 2, Segment 2

CASE PRESENTATION 1 Severe, But Infrequent Asthma

During an office visit with a new patient, Mrs. Wallace tells you that every time her two-year-old daughter Jennifer has a cold, she has severe coughing and wheezing that lasts for two or three weeks. She had approximately three or four such colds in the last year, and the most recent occurred a month ago. Jennifer does not have any symptoms now, but Mrs. Wallace is worried and asks you for help.

What treatment plan would you recommend to Mrs. Wallace for Jennifer's asthma?

Start quick relievers at the earliest sign of a cold. It may be necessary to give a long term controller all of the time. The initiation of long-term control therapy should be considered in children who have had more than three episodes of wheezing in the past year that have lasted more than one day. Other approaches could include the use of a leukotriene modifier if parents have concerns about daily inhaled corticosteroids.

All treatment should include an environmental assessment and appropriate follow-up. If the patient does not respond to treatment, consider the possibility of poor patient adherence or possible misdiagnosis. You may even consider referral to a specialist.

What do you think would be the greatest challenge in getting Mrs. Wallace to follow the treatment plan?

Mrs. Wallace is likely to be reluctant to use a daily long term controller when there are long asymptomatic periods. Point out that the long duration of each exacerbation indicates the likelihood that the airways are chronically inflamed even when Jennifer seems well and therefore she needs a long term controller at least for awhile.

CASE PRESENTATION 2 Frequent, Mild Asthma

Tom Platt is six years old and coughs and wheezes several times a week. The symptoms occur when he runs or is near a cat, but are mild and usually subside within an hour. The Platt family does not have any pets in their home. Mrs. Platt has never had to take Tom to the emergency room, but she tries to keep him from running too much to prevent these symptoms.

What treatment plan would you recommend to Mrs. Platt for Tom's asthma?

This may be a case of exercise induced asthma or daily wheezing (moderate persistent asthma) that is only obvious when Tom is active. If you determine Tom is having daily wheezing, he should be treated with a long term controller and serial peak flow measurement. If you determine his asthma is exercise induced, he should be treated appropriately.

All treatment should include an environmental assessment and appropriate follow-up. If the patient does not respond to treatment, consider the possibility of poor patient adherence or possible misdiagnosis. You may even consider referral to a specialist.

What do you think would be the greatest challenge in getting the family to follow the treatment plan?

Placing Tom on a daily long term controller when his symptoms are mild may be difficult for the family to accept.

CASE PRESENTATION 3 Treating A Baby With Asthma

Angela Mendez is 10 months old, and has repeated episodes of wheezing and difficulty breathing. When you prescribed albuterol syrup, her symptoms got better, but she was fussy, couldn't sleep, and vomited. Mrs. Mendez is getting frustrated. You have already completed an extensive work up and have ruled out other causes for the breathing difficulties.

What treatment plan would you recommend to Mrs. Mendez for Angela's asthma?

Begin with 2 puffs of a short acting inhaled beta$_2$-agonist in a spacer with face mask. If Angela requires this more often than 2 times a week consider additional treatment.

All treatment should include an environmental assessment and appropriate follow-up. If the patient does not respond to treatment, consider the possibility of poor patient adherence or possible misdiagnosis. You may even consider referral to a specialist.

What do you think would be the greatest challenge in getting Mrs. Mendez to follow the treatment plan?

Getting Mrs. Mendez to keep the face mask tight against the face until Angela has taken 4 or 5 breaths may be difficult if Angela fusses. Also, teaching proper MDI and spacer technique in a brief office visit is challenging.

- Now let's talk about cases you have. Who would like to share one with us?
- Are there any patients that you find especially challenging or difficult to treat?
- What about cases you have been able to treat successfully?
- Does anyone else have a case they would like to discuss?

Session 2, Segment 3

Introduction

SUGGESTED SCRIPT--PRIMARY CARE PROVIDER
The purpose of this next segment is to teach you how to effectively document, code and bill for the excellent asthma counseling and education that you will provide. Our goal is to ensure that you receive appropriate reimbursement for quality care.
Most pediatric visits are for acute care and as a result, the documentation, coding and reimbursement are more straightforward. For visits that are primarily focused on counseling and education, your approach towards these steps may be different.

Note: This section may be presented by a reimbursement specialist, if available.

Session 2, Segment 3

Documentation, Coding, and Reimbursement

SLIDE PRESENTATION – *REIMBURSEMENT SPECIALIST or PRIMARY CARE PROVIDER*

Slide 1

Goals

- To demonstrate how quality asthma education and counseling can be documented and coded
- To help physicians receive appropriate reimbursement for the quality asthma care they provide

Slide 2

Education and Counseling should be Properly Reimbursed

- Pediatricians generally undercharge
- Documentation and coding not covered in residency curricula
- Perception that it is not important in capitated arrangements

ADDITIONAL COMMENTS

- *Despite the time physicians invest for education and counseling, pediatricians tend to undercharge for services they provide due to poor documentation and coding.*
- *Despite the importance of documentation and coding, these topics are not a common component of pediatric residency curricula. Many physicians learn "on the job" or delegate this responsibility to office staff.*
- *There may be a perception that accurate coding is not necessary since reimbursement is based on predetermined contracts based on "cover lives" in managed care arrangements. However, these rates are derived, in part, from the claims generated by the codes submitted by physicians.*
- *Under-coding leads to under-compensation and as a result, less revenue per covered patient life. On the other hand, over-coding can lead to physicians getting "dropped" by managed care organizations since they might be perceived as not being "cost effective."*

Reference:
Ng M, Lawless ST. What if pediatric residents could bill for their outpatient services. Pediatrics. 2001;108:827-34.

Slide 3

Topics for this Segment

- What has to be documented in the chart
- What diagnosis and billing codes to submit
- Other codes and rules

Slide 4

Definitions

CPT Code: "what we did"
Current Procedural Terminology
Codes have relative value based on resources used

ICD 9-CM Code: "what was the problem"
International Classification of Diseases
Modified for United States payment systems
Codes for the problem or situation

Committee on Coding and Reimbursement, American Academy of Pediatrics. Coding for Pediatrics: a manual for pediatric documentation and reimbursement. 6th Edition. Bradley J Ed. American Academy of Pediatrics, Elk Grove Village, IL. 2000.

Slide 5

Selecting the CPT Code

- The asthma visit will fall under one of five different CPT codes
- Coding should be based on what was performed and documented.
  - "If it wasn't documented, it didn't happen."
  - Poor documentation can lead to denial of payment by carriers

ADDITIONAL COMMENTS

♦ *Visits will fall under 1 of 5 codes. One is the least involved and reimbursed less and 5 is the most involved and reimbursed more.*

♦ *There are two general CPT coding strategies. Selecting a CPT code based on complexity of the illness or selecting a CPT code based on the use of physician time.*

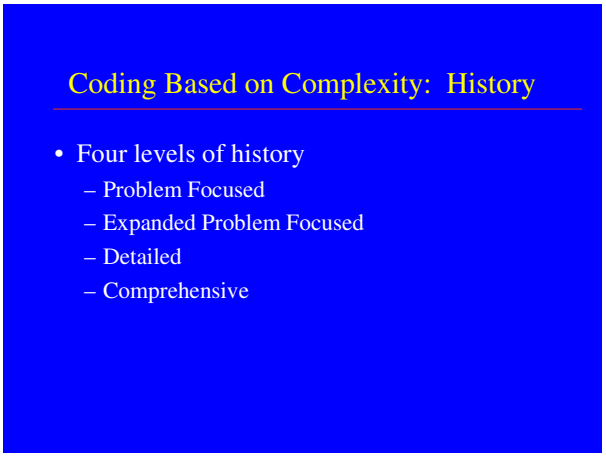
♦ *To code based on complexity, there are three key components: history, physical exam and medical decision making.*

Slide 6

Two General CPT Coding Strategies

- Select the CPT Code based on complexity
  - history (4 types)
  - exam (4 types)
  - medical decision making (4 types)
- Select the CPT Code based on time

Slide 7



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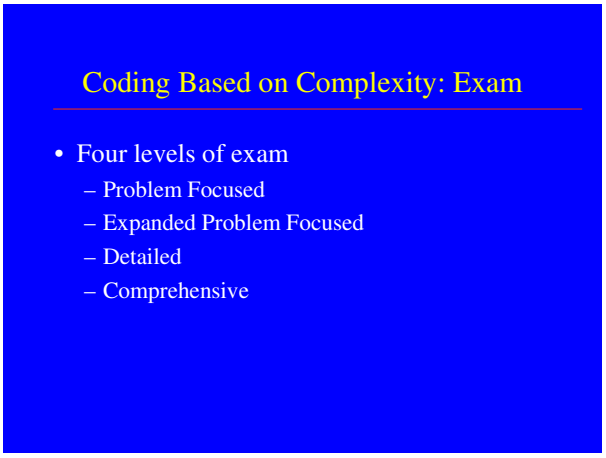
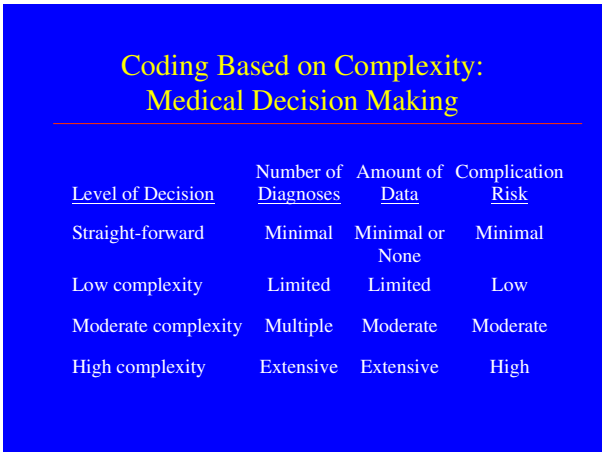


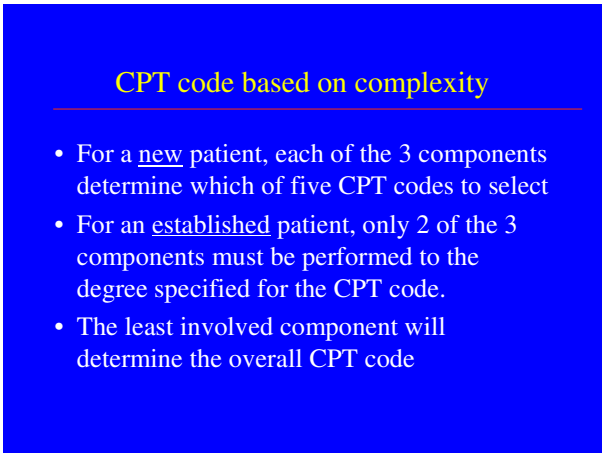
Slide 9



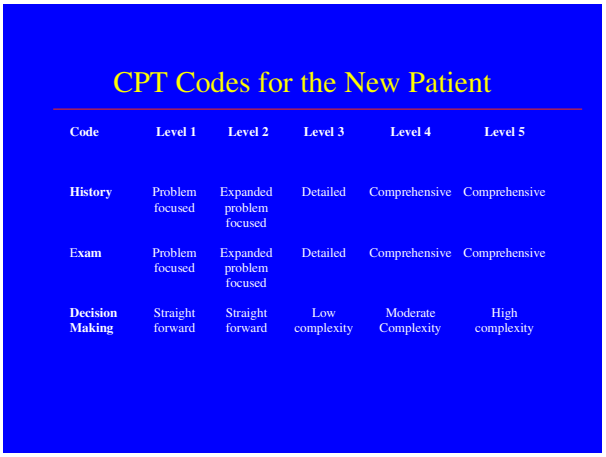
ADDITIONAL COMMENTS

♦ *There are 4 types of medical decision making, which are based on the number of diagnoses, the amount of data and the complication risk.*

Slide 10



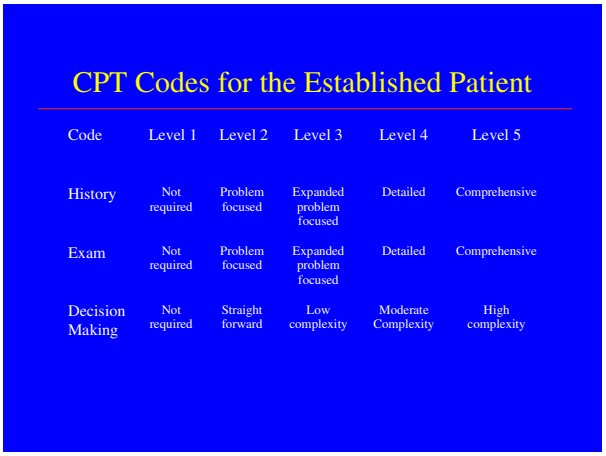
Slide 11



ADDITIONAL COMMENTS

♦ *For example, for a new patient, to code a LEVEL 4 asthma visit, you would need to perform a comprehensive history, a comprehensive exam and the medical decision making would have to be of moderate complexity*

Slide 12



♦ *For an established patient, you only have to fulfill 2 out of the 3 categories.*

Slide 13

Level 4 Visit Based on Complexity for the Established Patient

History
- – H.P.I with 4 or more elements
- – ROS of 2 to 9 systems
- – Either family, social or past medical history

Exam
- – 5 to 7 areas

Medical Decision Making
- – moderate complexity

ADDITIONAL COMMENTS

- ♦ *In your handout of coding models, you will see 5 different levels and three components.*
- ♦ *Let's look at the level 4 visit in detail. Here are the components:*
- ♦ *For a new patient, you'd need to fulfill all 3 of these components.*
- ♦ *For an established patient, you only need to fulfill 2 out of the 3 key components.*

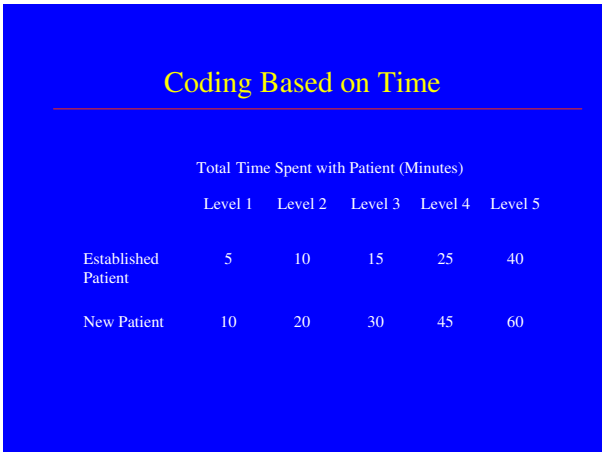
Slide 14

Coding Based on Time

- Time is a factor only when counseling or coordination of care accounts for greater than 50% of the total face-to-face time with a patient.
- Document
  - – total duration of counseling
  - – total duration of visit
  - – topics covered for counseling or coordination

- ♦ *Remember, there are two strategies. coding based on complexity and coding based on time.*

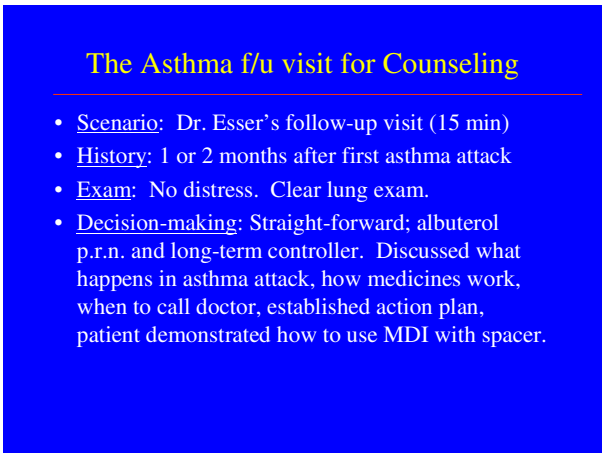
Slide 15



ADDITIONAL COMMENTS

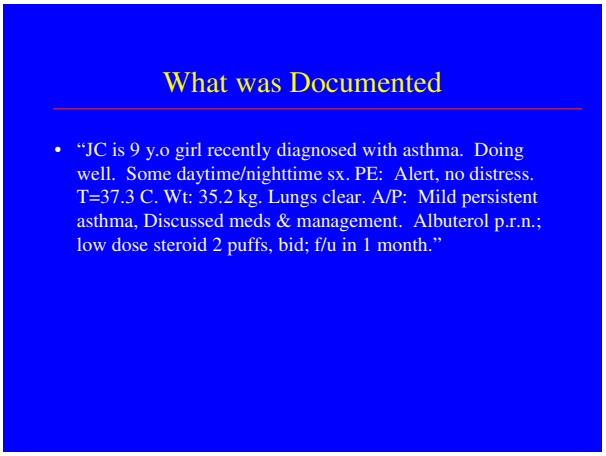
- *The amount of time listed here is a generic amount assigned to these codes.*
- *So for an established patient, if you spent 15 minutes of face-to-face time during the visit and 8 minutes was spent on counseling and coordination of care, you could justify a level 3 visit.*

Slide 16



- *Let's apply this information to the visits we saw with Dr. Esser.*

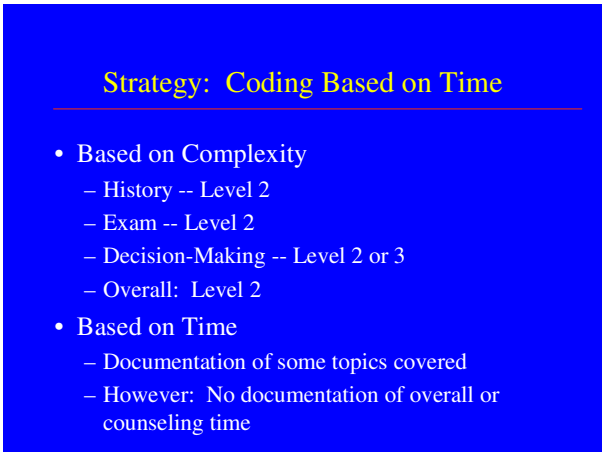
Slide 17



ADDITIONAL COMMENTS

♦ *Here it might be a good idea to code based on time. However, there was no documentation of the time spent on counseling or the overall time.*

Slide 18



Slide 19

Effect of Documentation

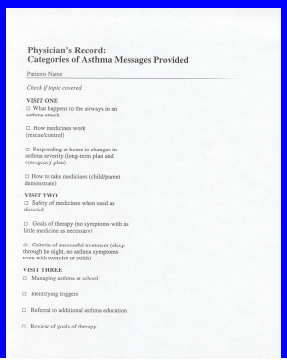
- "JC is 9 y.o girl recently diagnosed with asthma. Doing well. Some daytime/nighttime sx. PE: Alert, no distress. T=37.3 C. Wt: 35.2 kg. Lungs clear. A/P: Mild persistent asthma, Discussed meds & management. Albuterol p.r.n. low dose steroid 2 puffs, bid; f/u in 1 month f/u in 1 month.
- *Total time 15 min, 10 min spent discussing* what happens in asthma attack, how meds work, established action plan, pt. demonstrated how to use MDI with spacer."

ADDITIONAL COMMENTS

♦ *What if this was documented, with this extra line in italics? This now justifies the Level 3 code. If it was 25 minutes and 13 minutes spent in counseling, it justifies a Level 4 code.*

Slide 20

Physician's Record



Physician's Record:
Categories of Asthma Messages Provided

Patients Name

Check if topic covered

VISIT ONE

- ☐ What happens to the airways in an asthma attack
- ☐ How medicines work (rescue/control)
- ☐ Responding at home to changes in asthma severity (long-term plan and emergency plan)
- ☐ How to take medicines (child/parent demonstrate)

VISIT TWO

- ☐ Safety of medicines when used as directed
- ☐ Goals of therapy (no symptoms with as little medicine as necessary)
- ☐ Criteria of successful treatment (sleep through he night, no asthma symptoms even with exercise or colds)

VISIT THREE

- ☐ Managing asthma at school
- ☐ Identifying triggers
- ☐ Referral to additional asthma education
- ☐ Review of goals of therapy

♦ *This form located in the communication section of your binder can be used to help document which topics were covered.*

Slide 21

Coding Based on Time

- In general for asthma follow-up visits where education is main point of visit, coding based on time more accurately captures the value of what was accomplished
- If counseling takes up greater than 50% of session, visit can be coded based on time
- Documentation and coding makes a difference

Slide 22

Short-term Effects

- A visit for established patient could be a Level 3 visit if you spent total time of 15 minutes and >7.5 minutes was spent in counseling regardless of level of history and physical examination
- A visit for established patient could be a Level 4 visit if you spent total time of 25 minutes and >12.5 minutes was spent in counseling regardless of level of history and physical examination

Slide 23

Asthma Teaching Code

- 94664: Revised to read: Demonstration and/or evaluation of patient utilization of an aerosol generator, nebulizer, metered dose inhaler or IPPB device.
  - can be reported only one time per day
  - can be claimed when office staff perform demo under supervision

Slide 24

Overall Effects

- Assume
  - 1250 patients in panel
  - 100 asthma patients (8% prevalence)
  - Each patient with just two counseling sessions
- Poor documentation and coding
  - Level 2 (Complexity) could be Level 4 (Time)
  - $69.19 lost per visit
  - $13,838.00 lost per year

Reference:
Bocian AB, et al. Size and Age-Sex Distribution of Pediatric Practice. Arch Pediatr Adoles Med 1999;153:9-14.

Slide 25

For the Asthma Counseling Visit

- CPT coding strategies & documentation requirements
- ICD-9 code selection
- Modifier (-25) codes

Slide 26

ICD-9 Codes

- Describes the diagnosis for the visit (3 to 5 digits)
- In general, a five digit diagnosis has greater likelihood of reimbursement
- Don't forget to add other diagnosis to help support the severity of illness (hypoxemia)

Slide 27

How to Use Modifiers Effectively

25) Used on outpatient visits for two separate services

76) Used on procedures when the same service is performed multiple times

59) Used on procedures that should be billed separately from the office visit and other procedures

Slide 28

25 Modifier

- Only used on outpatient visits
  - Example: Outpatient visit same day as a procedure such as child presents with wheezing and you determine nebulizer treatment is needed

Slide 29

76 Modifier

- Used on procedures
  - Example: Multiple nebulizer treatments given on the same day by the same physician

Slide 30

59 Modifier

- Used only on procedures
  - Example: Used on pulse ox when done at the same time as other procedures

..

Slide 31

Counseling During a Well Child Visit

- Scenario: During annual exam, several asthma topics are reviewed
- Can link the well child exam (code 99391) with an asthma visit (code 99213) using a -25 modifier

ADDITIONAL COMMENTS

♦ *Also, you may find yourself covering a lot of asthma topics during a well child exam. This may go beyond what you normally cover during a well child exam*

♦ *A -25 modifier is an additional code that says "this visit was different". If you document the other topics covered, for example for a 99213 or Level 3 visit, you can add the 92213 claim along with the well child exam code with a -25 modifier.*

Slide 32

Don't Forget the Procedures

- Pulse oximetry (94760)
- Spirometry (94010)
- Nebulizer treatment (94640)
- Teaching: Nebulizer, Metered Dose Inhaler etc. (94664)
- Flu shot (90657, 90658, 90659)
- Prolonged Physician Services (99354, 99355)

♦ *Also, don't forget the procedures that you do in the office. Don't forget to submit these codes as well.*

Slide 33

Tools

- Coding companion with asthma examples
- Visit template for documentation
- Other sources of information
  - AAP 1-800-433-9046 Coding Questions
  - AAP News - Coding Corner (monthly)
  - AAP - Coding for Pediatrics, and
  - AAP - Coding Companion - quarterly

ADDITIONAL COMMENTS

♦ *In addition, here are some tools that we have included in your binder.*

Slide 34

Take Home Messages

- For asthma visits focused on education, coding based on time more accurately captures the value of what was accomplished
- Pediatricians should receive appropriate reimbursement for the quality asthma care they provide
- Documentation and coding makes a difference

PACE Master Trainers

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CLASSIFYING ASTHMA SEVERITY AND INITIATING TREATMENT IN YOUTHS ≥ 12 YEARS OF AGE AND ADULTS

Assessing severity and initiating treatment for patients who are not currently taking long-term control medications

Components of Severity		Classification of Asthma Severity (≥12 years of age)			
		Intermittent	Persistent		
			Mild	Moderate	Severe
Impairment **Normal FEV_1/FVC:** **8-19 yr 85%** **20-39 yr 80%** **40-59 yr 75%** **60-80 yr 70%**	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 $beta_2$-agonist use for symptom control (not prevention of EIB)	≤ 2 days/week	>2 days/week but not daily, and not more than 1x on any day	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
	Lung function	•Normal FEV_1 between exacerbations •FEV_1 > 80% predicted •FEV_1/FVC normal	•FEV_1 >80% predicted •FEV_1/FVC normal	•FEV_1 >60% but <80% predicted •FEV_1/FVC reduced 5%	•FEV_1< 60% predicted •FEV_1/FVC reduced >5%
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year (see note)	≥ 2/year(see note) →		
		← Consider severity and interval since last exacerbation. →			
		Frequency and severity may fluctuate over time for patients in any severity category			
		Relative annual risk of exacerbations may be related to FEV_1			
Recommended Step for Initiating Treatment		**Step 1**	**Step 2**	**Step 3** and consider short course of oral systemic corticosteroids	**Step 4 or 5**
		In 2-6 weeks, evaluate level of asthma control that is achieved and adjust therapy accordingly			

Key: FEV1, forced expiratory volume in 1 second; FVC, forced vital capacity; ICU, intensive care unit

Note: At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma severity. In general, more frequent and intense exacerbations (e.g. requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, patients who had ≥ 2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace the clinical decision making required to meet individual patient needs.

- Level of severity is determined by assessment of both impairment and risk. Assess impairment domain by patient's /caregiver's recall of previous 2-4 weeks and spirometry. Assign severity to the most severe category in which any feature occurs.

- At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma severity. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, patients who had ≥2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

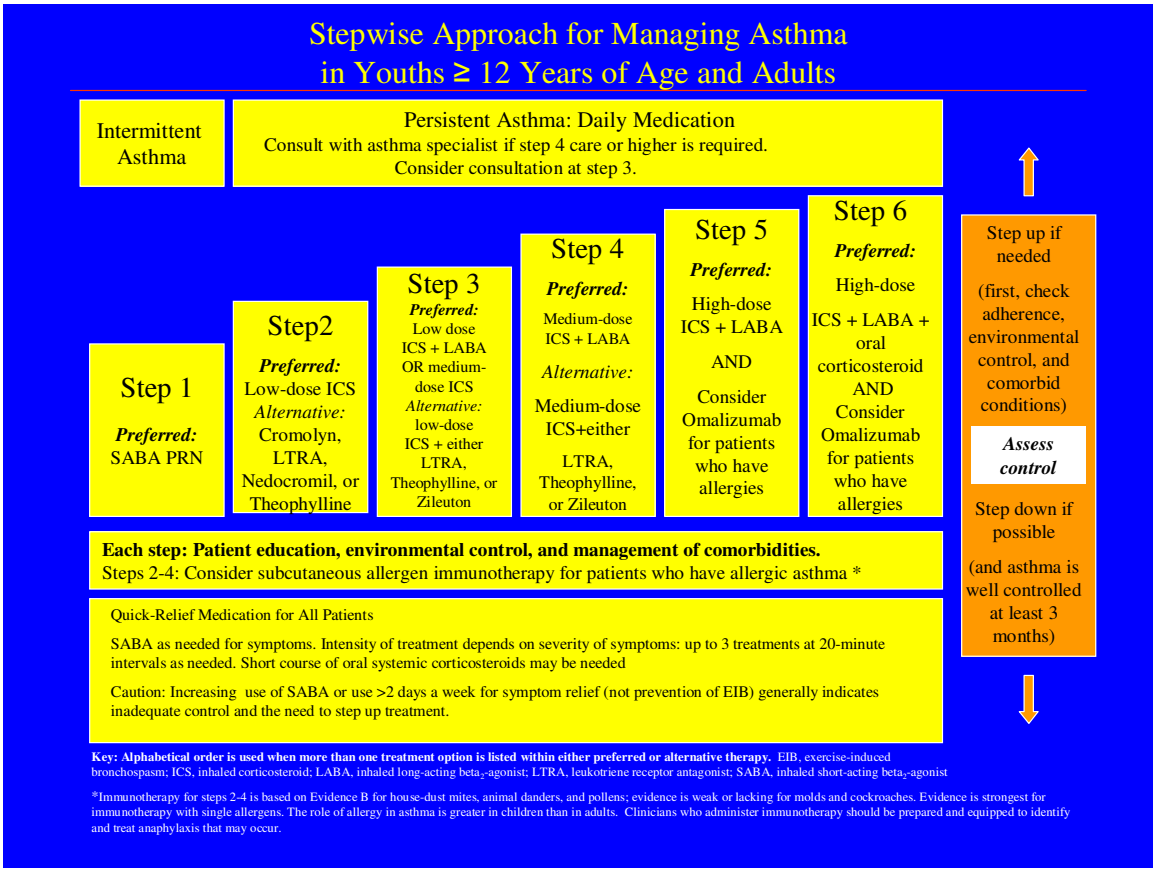
ASSESSING ASTHMA CONTROL AND ADJUSTING THERAPY IN YOUTH ≥ 12 YEARS OF AGE AND ADULTS

Components of Control		Classification of Asthma Control (≥ 12 years of age)		
		Well Controlled	**Not Well Controlled**	**Very Poorly Controlled**
Impairment	Symptoms	≤ 2 days/week	>2 days/week	Throughout the day
	Nighttime awakenings	≤ 2x/month	1-3x/week	≥ 4x/week
	Interference with normal activity	None	Some limitation	Extremely limited
	Short-acting $beta_2$-agonist use for symptom control (not prevention of EIB)	≤ 2 days/week	>2 days/week	Several times per day
	FEV_1 or peak flow	>80% predicted/ personal best	60-80% predicted/ personal best	<60% predicted/ personal best
	Validated Questionnaires ATAQ ACQ ACT	 0 ≤ 0.75* ≥ 20	 1-2 ≥ 1.5 16-19	 3-4 N/A ≤ 15
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year	≥ 2/year (see note)	
		Consider severity and interval since last exacerbation		
	Progressive loss of lung function	Evaluation requires long-term follow-up care.		
	Treatment-related adverse effects	Medication side effects can vary in intensity from none to very troublesome and worrisome. The level of intensity does not correlate to specific levels of control but should be considered in the overall assessment of risk.		
Recommended Action for Treatment		•Maintain current step. •Regular follow ups every 1-6 months to maintain control. •Consider step down if well controlled for at least 3 months.	•Step up 1 step and •Reevaluate in 2-6 weeks. •For side effects, consider alternative treatment options.	•Consider short course of oral systemic corticosteroids, •Step up 1-2 steps, and •Reevaluate in 2 weeks. •For side effects, consider alternative treatment options.

*ACQ values of 0.76-1.4 are indeterminate regarding well-controlled asthma.
Key: EIB, exercise-induced bronchospasm; ICU, intensive care unit.
Note: At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma severity. In general, more frequent and intense exacerbations (e.g. requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, patients who had ≥ 2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace, the clinical decision making required to meet individual patient needs.
- The level of control is based on the most severe impairment or risk category. Assess impairment domain by patient's recall of previous 2-4 weeks and by spirometry/or peak flow measures. Symptom assessment for longer periods should reflect a global assessment such as inquiring whether the patient's asthma is better or worse since the last visit.
- At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma control. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate poorer disease control. For treatment purposes, patients who had ≥ 2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have not-well-controlled asthma, even in the absence of impairment levels consistent with not-well-controlled asthma.
- Validated Questionnaires for the impairment domain (the questionnaires do not assess lung function or the risk domain)
  - ATAQ=Asthma Therapy Assessment Questionnaire© (See sample in "Component 1: Measures of Asthma Assessment and Monitoring.")
  - ACQ=Asthma Control Questionnaire © (user package may be obtained at www.qoltech.co.uk or juniper@qoltech.co.uk)
  - ACT=Asthma Control Test™ (See sample in "Component 1: Measures of Asthma Assessment and Monitoring.")
  - Minimal Importance Difference: 1.0 for the ATAQ; 0.5 for the ACQ; not determined for the ACT.
- Before step up in therapy:
  -Review adherence to medications, inhaler technique, environmental control, and comorbid conditions.
  -If alternative treatment option was used in a step, discontinue and use the preferred treatment for that step.



ADDITIONAL COMMENTS

- The stepwise approach is meant to assist, not replace, the clinical decision making required to meet individual patient needs.
- If alternative treatment is used and response is inadequate, discontinue it and use the preferred treatment before stepping up.
- Zileuton is a less desirable alternative due to limited studies as adjunctive therapy and the need to monitor liver function. Theophylline requires monitoring of serum concentration levels.
- In step 6, before oral systemic corticosteroids are introduced, a trial of high-dose ICS + LABA + either LTRA, theophylline, or zileuton may be considered, although this approach has not been studied in clinical trials.
- Step 1,2, and 3 preferred therapies are based on Evidence A; step 3 alternative therapy is based on Evidence A for LTRA, Evidence B for theophylline, and Evidence D for zileuton. Step 4 preferred therapy is based on Evidence B, and alternative therapy is based on Evidence B for LTRA and theophylline and Evidence D for zileuton. Step 5 preferred therapy is based on Evidence B. Step 6 preferred therapy is based on (EPR – 2 1997) and Evidence B for omalizumab.
- Immunotherapy for steps 2-4 is based on Evidence B for house-dust mites, animal danders, and pollens; evidence is weak or lacking for molds and cockroaches. Evidence is strongest for immunotherapy with single allergens. The role of allergy in asthma is greater in children than in adults.
- Clinicians who administer immunotherapy should be prepared and equipped to identify and treat anaphylaxis that may occur.