Family Medicine and *Patient-Centered* Asthma Care

Presented by the

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Learning Objectives

- Apply latest evidence-based guidelines in the diagnosis and management of asthma.
- Use simplified, efficient processes to interpret spirometry results.
- Name the six key messages from the GIP report.
- Name several sources to identify appropriate inhalers and help patients understand importance of accurate technique when using inhalers.
- Demonstrate effective and culturally competent communication skills to improve patient engagement and adherence to asthma management plans.

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Definition: Asthma

- Chronic disease of the airways that may cause
  - Wheezing
  - Breathlessness
  - Chest tightness
  - Nighttime or early morning coughing
- Episodes are usually associated with widespread, but variable, airflow obstruction within the lung that is often reversible either spontaneously or with treatment

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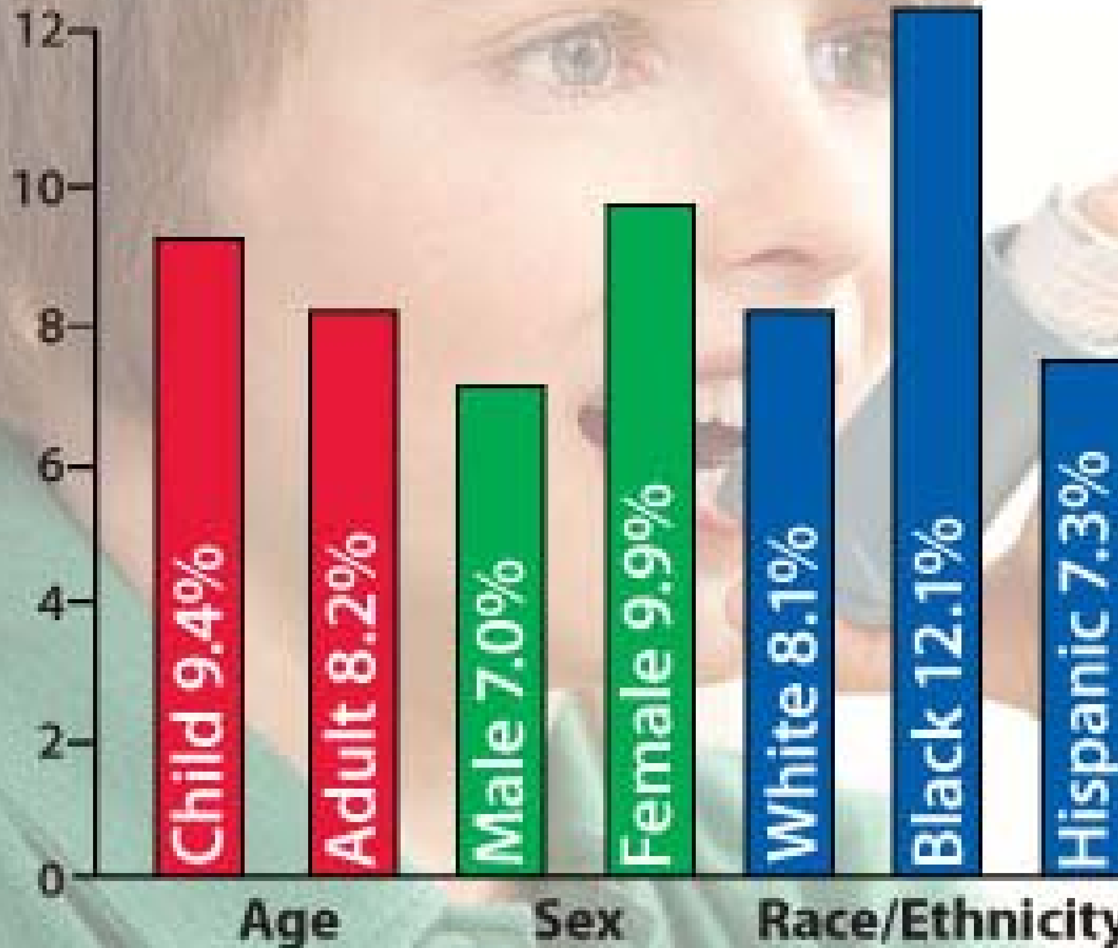
Prevalence



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Burden: Every day in America

- 44,000 people have an asthma attack.
- 36,000 kids miss school due to asthma.
- 27,000 adults miss work due to asthma.
- 4,700 people visit the emergency room due to asthma.
- 1,200 people are admitted to the hospital due to asthma.
- 9 people die from asthma.

National Asthma Control Initiative, 2010

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Population Disparities

- Current asthma prevalence is higher among:
  - Children than adults
  - Boys than girls
  - Women than men
- Asthma morbidity and mortality is higher among:
  - African Americans

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Risk Factors

- Genetic
- Obesity
- Sex

PLUS:

- Environmental
  - Allergens
  - Infections
  - Smoke
  - Diet
  - Air Pollution

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Guidelines

- NHLBI: National Asthma Education and Prevention Program (NAEPP)
  - Expert Panel Report 3 (417 pages)
  - Guidelines Implementation Panel (GIP)
- GOLD: Global Initiative for Chronic Obstructive Lung Disease
- GINA: Global Initiative for Asthma
  - Collaborative of NHLBI and WHO
- ICSI: Institute for Clinical Systems Improvement
  - Focuses on Triple Aim

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What is GIP?

- Guidelines Implementation Panel Report for Expert Panel Report 3
- Recommendations and strategies to implement EPR-3
- Six key messages

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GIP Messages

1. Use Inhaled Corticosteroids

   Inhaled corticosteroids are the most effective medications for long-term management of persistent asthma.

2. Use Asthma Action Plan

   All people who have asthma should receive a written asthma action plan to guide their self-management efforts.

3. Asthma Severity

   All patients should have an initial severity assessment based on measures of current impairment and future risk to determine type and level of initial therapy needed.

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GIP Messages

4. Asthma Control

   Patients should review the level of control with their PCP to guide decisions.

5. Schedule Follow-up Visits

   Needed to assess asthma control and to modify treatment if needed.

6. Allergen and Irritant Exposure Control

   Review each patient's sensitivity to allergens and irritants and provide a multipronged strategy to reduce exposure.

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Making the Diagnosis

- Medical History
- Physical Exam
- Tests for Dx and Monitoring
  - Spirometry
  - Peak expiratory flow

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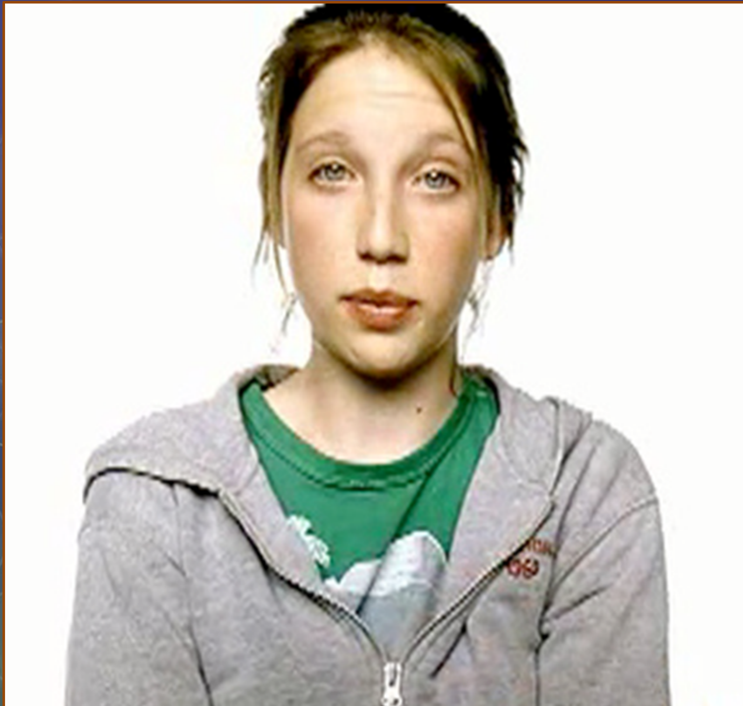

Meet Samantha

- Samantha is a 19-year-old college sophomore.
- She's had asthma since childhood but hasn't seen a physician in years.
- She describes symptoms 3-4 times/week and she awakens with asthma ~once/week.
- Her symptoms respond to a short-acting ß-agonist.

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Samantha also tells you she:

- Smoked for awhile in high school, but quit after starting college
- Has an extensive history of seasonal allergies
- Plays midfield for college soccer team, but rarely has symptoms with exercise

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Spirometry: Testing Lung Function

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Spirometry

- Normal: $0.7 < FEV1/FVC < 0.8$
- Older patients: 0.65-0.70 may be normal
- Younger patients: > 0.70 may be abnormal

- Use lower limit of normal (LLN) to help distinguish in young and old patients

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You perform office spirometry. Her FEV_1 is 60% of predicted and her FEV_1/FVC ratio is 66%; these are fully reversible after short-acting bronchodilator.

What is Samantha's diagnosis by spirometry?

0% 1. Normal

0% 2. Obstructive disease

0% 3. Restrictive disease

0% 4. Mixed obstructive/restrictive disease

0 of 100

7

Countdown

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Spirometry patterns

DIAGNOSIS	Spirometry values
Normal	FEV_1 and FVC > 80% FEV_1/FVC ratio > 0.7
Obstructive	FEV_1 < 80% FVC normal or reduced (less than FEV_1) FEV_1/FVC ratio < 0.7
Restrictive	FEV_1 normal or mildly reduced FVC below 80% predicted FEV_1/FVC ratio normal (> 0.7)
Mixed	FEV1 reduced FVC reduced FEV1/FVC reduced

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Severity

- Intensity of untreated disease
- Determined by
  - Current impairment
  - Future risk
- Guides decisions for initiating therapy

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Samantha has daytime symptoms 3-4x/week and nighttime symptoms 1x/week. Her FEV_1 is 66% of predicted. She went to urgent care once this past year for asthma symptoms.

What is Samantha's asthma severity?

0%	1. Intermittent
0%	2. Persistent – mild
0%	3. Persistent – moderate
0%	4. Persistent - severe

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Countdown

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Classifying Impairment

Components of severity	Classification of asthma severity ≥ 12 years of age* Intermittent	Persistent-mild	Persistent-moderate	Persistent-severe
Symptoms	≤ 2 days per week	> 2 days per week, not daily	Daily	Throughout the day
Nighttime awakenings	≤ 2 times per month	3 to 4 times per month	> Once per week, but not nightly	Often 7 times per week
Short-acting beta agonist use for symptom control (not for prevention of exercise-induced bronchospasm)	≤ 2 days per week	2 days/wk, but no more than 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% of predicted; FEV_1/FVC normal	FEV_1 ≥ 80 % of predicted; FEV_1/FVC normal	FEV_1 60-80% of predicted; FEV_1/FVC reduced 5%	FEV_1 < 60%of predicted; FEV_1/FVC reduced >5%

Classifying Risk

	Intermittent	Persistent Mild	Persistent Mod	Persistent Severe
Exacerbations requiring systemic corticosteroids	0 – 1/year	≥ 2/year	≥ 2/year	≥ 2/year
	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			

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Treatment

- Short-acting β-agonists
- Inhaled corticosteroids
- Third-line agents:
  - Long-acting β-agonists
  - Leukotriene antagonists
  - Other

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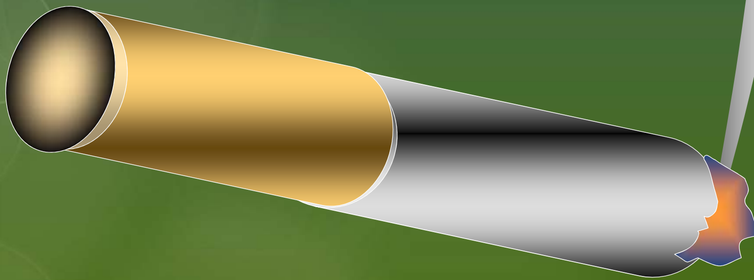
Environmental Allergens

- Ask about allergens, including indoor inhalants (e.g. cigarette smoking)
- Use skin or in vitro testing to determine sensitivities and correlate with patient history
- Assess for seasonal allergies



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Address Allergens and Triggers

- Reduce allergen exposure with multifaceted, comprehensive approach
- Avoid smoke/pollution, med/food sensitivities
- Consider allergen immunotherapy
- Treat co-morbid conditions

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Which of the following instructions for inhaler use is not correct?

0% 1. Shake the inhaler before using

0% 2. Breathe out and breath in quickly as you press down on the inhaler

0% 3. Hold your breath and count to 10 slowly

0% 4. For short-acting rescue meds, wait about 1 minute between puffs

0% 5. For steroid inhalers, rinse and spit your mouth after each use

0 of 100

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Countdown

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A Word About Inhaler Use

- Technique is critical to medication delivery
- Physician should demonstrate and observe inhaler use
- Education materials:
  - Handout
  - Video

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Demonstrate inhaler technique

Used with permission from Use-inhalers.com

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Ongoing Management

- Symptom control
- Activity levels / exercise
- Pulmonary function
- Prevent asthma exacerbations
- Avoid adverse effects from asthma medications
- Prevent asthma mortality

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Assess and Monitor Control

- Current impairment
  - Frequency/intensity of symptoms
  - Functional limitations experienced
- Future risk
  - Likelihood of exacerbations
  - Decline in lung function
  - Risk of adverse medication effects

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EPR-3: Classification of Control: Current Impairment

Symptom awareness: Same as when assessing severity

Questionnaires:
- Asthma Therapy Assessment Questionnaire
- Asthma Control Questionnaire
- Asthma Control Test

Peak flow monitoring: Symptom monitoring as effective as peak flow monitoring in assessing asthma control

Control assessment also takes into account risk

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Action Plans

Written asthma action plan is important for self-management education.

Strongest benefit for moderate/severe asthma (stage 3 or higher), history of severe exacerbations, or poorly controlled asthma

What Should be Included in an Action Plan?

- Daily Management
- How to recognize and handle worsening asthma

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Follow-up

- 2-6 week after starting/changing meds
- 1-6 months if stable
- Focus on communication and teaching patients did not lengthen visit times (e.g. reviewing written asthma action plan)

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Recommendations for All Subsequent Visits		
Focus on:	**Teach in simple language:**	**Teach or review and demonstrate:**
■ Expectations of visit ■ Asthma control ■ Patients' goals of treatment ■ Medications ■ Quality of life Ask relevant questions from previous visits and also ask: "How have you tried to control things that make your asthma worse?" "Please show me how you use your inhaled medication."	■ Review and reinforce all: — Educational messages — Environmental control strategies at home, work, or school — Medications — Self-assessment of asthma control, using symptoms and/or peak flow as a guide	■ Inhaler/spacer or VHC technique. ■ Peak flow monitoring technique, if appropriate. ■ Use of written asthma action plan. Review and adjust as needed. ■ Confirm that patient knows what to do if asthma gets worse.

Sources: Adapted from Guevara et al. 2003; Janson et al. 2003; Powell and Gibson 2003; Wilson et al. 1993.

Reproduced with permission by the NHBLI. 2007 Expert Panel Report 3 (EPR3): Guidelines for the Diagnosis and Management of Asthma Pg.127

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Back to Samantha:
Putting her at the Center of Care

Family & Friends

People Like Me

Asthma Education

Care Team

Medication

Community

Behavioral & Cognitive

Social Organizations

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Patient Non-Adherence

World Health Organization

Only 50% of patients take medication as prescribed.

Non-adherence affects Americans of all ages, both genders and across socioeconomic levels

NCPIE, August 2007 *

Lack of medication adherence estimated at $177 billion annually:

- ✓ Unnecessary disease progression;
- ✓ Disease complications;
- ✓ Reduced functional abilities;
- ✓ Lower quality of life;
- ✓ Premature death

** National Council on Patient Information and Education, August 2007*

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Patient-Doctor Partnership

- Communication is key!
- We are asking patients to:
  - Identify and control triggers
  - Take meds based on symptom (or peak-flow) based algorithm
  - Identify and self-treat exacerbations
  - Appropriately communicate with family physicians for additional help

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Partnership and Shared-decision making

- Determine patient's personal goals and treatment preferences
- Share general asthma goals
- Agree on shared goals of treatment
- Provide a written asthma action plan

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Educate, educate, educate

- “No symptoms, no asthma” belief
- Latino ethnocultural belief that asthma is a “cold” illness
- Patient’s reading level strongest predictor of asthma knowledge and proper MDI use

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Social Media and Asthma

Use-inhalers.com

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Patient resources

- http://familydoctor.org/familydoctor/en/diseases-conditions/asthma.html
- http://www.ginasthma.org/Patients
- http://www.patient.co.uk/health/asthma

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Key Take Home Points

- Initial assessment focuses on asthma severity
- Regular follow-up needs to addresses control
  - Both severity and control relate to degree of impairment and future risk
- Inhaled corticosteroids are most effective for long-term management of persistent asthma
- Control of allergen/irritant exposure contributes to control
- Patient engagement and shared decision-making are key
  - Asthma action plan facilitates self-management

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Thank You!

Questions

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Resources

- NHLBI Guidelines for the Diagnosis and Treatment of Asthma (EPR-3)
  - *http://www.nhlbi.nih.gov/guidelines/asthma/index.htm*
- Global Initiative for Asthma (GINA)
  - Pocket Guide for Asthma Management & Prevention. Available from:
    - *http://www.ginasthma.org/documents/1*
  - Global Strategy for Asthma Management and Prevention, 2012. Available from:
    - *http://www.ginasthma.org*

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Action Plans

- Public Health Institute Regional Asthma Management and Prevention (RAMP) Initiative
  - *http://www.nhlbi.nih.gov/heatl,public/lung/asthma/asthma_actplan.pdf*
- California Asthma Public Health Initiative, CA Dept of Health Services
  - *http://fhop.ucsf.edu/fhop/docs/pdf/prods/interventPlan/ip_AsthmaActionPlanpdf*

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