

Asthma 2009:

What a Specialty MD Wants You  
to Know

*Gregory M. Wickern, MD*  
*Asthma & Allergy of Idaho*  
*Twin Falls*

# Let's Discuss...

- Why We Should Talk About Asthma
- What is an Allergist
- Office Evaluation & Management
  - National Treatment Guideline Highlights
- Inhaler Device Choice
- How *You* Can Help *Our* Patients

# Why Talk About Asthma?

- Plagues 22 million Americans...and their families too!
- Common cause for work/school absenteeism and reduced productivity
- Despite 18 years of national guidelines, still major cause of ED/unscheduled office visits and hospitalizations
- Ten Americans die each day from asthma!

# What is an Allergist?

- Physician (MD or DO)
- 3-year residency in either:
  - Pediatric Medicine
  - Internal Medicine
- 2-year fellowship in allergy/clinical immunology
- Usually see patients of all ages
- Private practice and academic settings

# Office Evaluation & Management

- Diagnosis
- Assessment and Monitoring of Severity, Control, Risk and Impairment
- Patient Education
- Environmental Factors & Comorbid Conditions
- Medication Management

# Asthma Definition - NHLBI EPR-3

*Asthma is a chronic inflammatory disorder of the airways in which many cells and cellular elements play a role: in particular, mast cells, eosinophils, neutrophils, T lymphocytes, macrophages, and epithelial cells. In susceptible individuals, this inflammation causes recurrent episodes of coughing (particularly at night or early in the morning), wheezing, breathlessness, and chest tightness. These episodes are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment.*

# Diagnosis

- Symptom History

- Cough

- You can cough and not have asthma, but you can't have asthma and not cough!
- Can be only symptom...especially in kids

- Wheeze

- Breathlessness

- Chest tightness/heaviness

- Night > day

- Recurrent

# Diagnosis - Triggers

- Infections
  - Nasal/pulmonary viruses, *Mycoplasma* & *Chlamydia pneumoniae*
  - Sinusitis
- Allergens
  - Animals, molds, pollens
- Exercise
- Gastroesophageal reflux
- Airway irritants
  - Smoke, ozone, odors, vapors, particulates
- Weather changes

# Diagnosis - Triggers

- Stress
- Hard laughter or crying
- Menstruation
- Pregnancy
- Drugs
  - Aspirin, NSAIDs
- Food additives
  - Sulfites

# Diagnosis

- Personal medical history
  - Rhinitis
  - Eczema
  - Food allergies
  - Smoking history
- Family medical history
- Occupation/Hobbies
- Differential diagnosis: Horse or “zebra”

# Diagnosis - Testing

- Spirometry
  - Yes...we use it too!
  - Establish baseline and reversibility of obstruction
  - Use to monitor on-going treatment
- Bronchoprovocation
  - Methacholine or histamine challenge
  - Exercise challenge
- Chest radiograph...occasional CT
- Allergy testing
  - Skin testing
  - Blood testing - 3rd generation RAST

# Initial Assessment & Monitoring

- Severity
  - The “intrinsic intensity of the disease”
  - Best established “off medications” or upon the medications required to control sx's
- Control
  - Degree that symptoms are minimized, therapy goals achieved
    - Sleep, daytime activities not disturbed
    - Rare use of rapid acting bronchodilators

# Assessment and Monitoring

- Impairment
  - Frequency and intensity of recent sx's
  - Functional limitations caused by sx's
  - Goal: normal sleep, activity, PFTs
- Risk
  - Likelihood of asthma exacerbations, reduced lung function or medication adverse effects

# Follow-up Visits

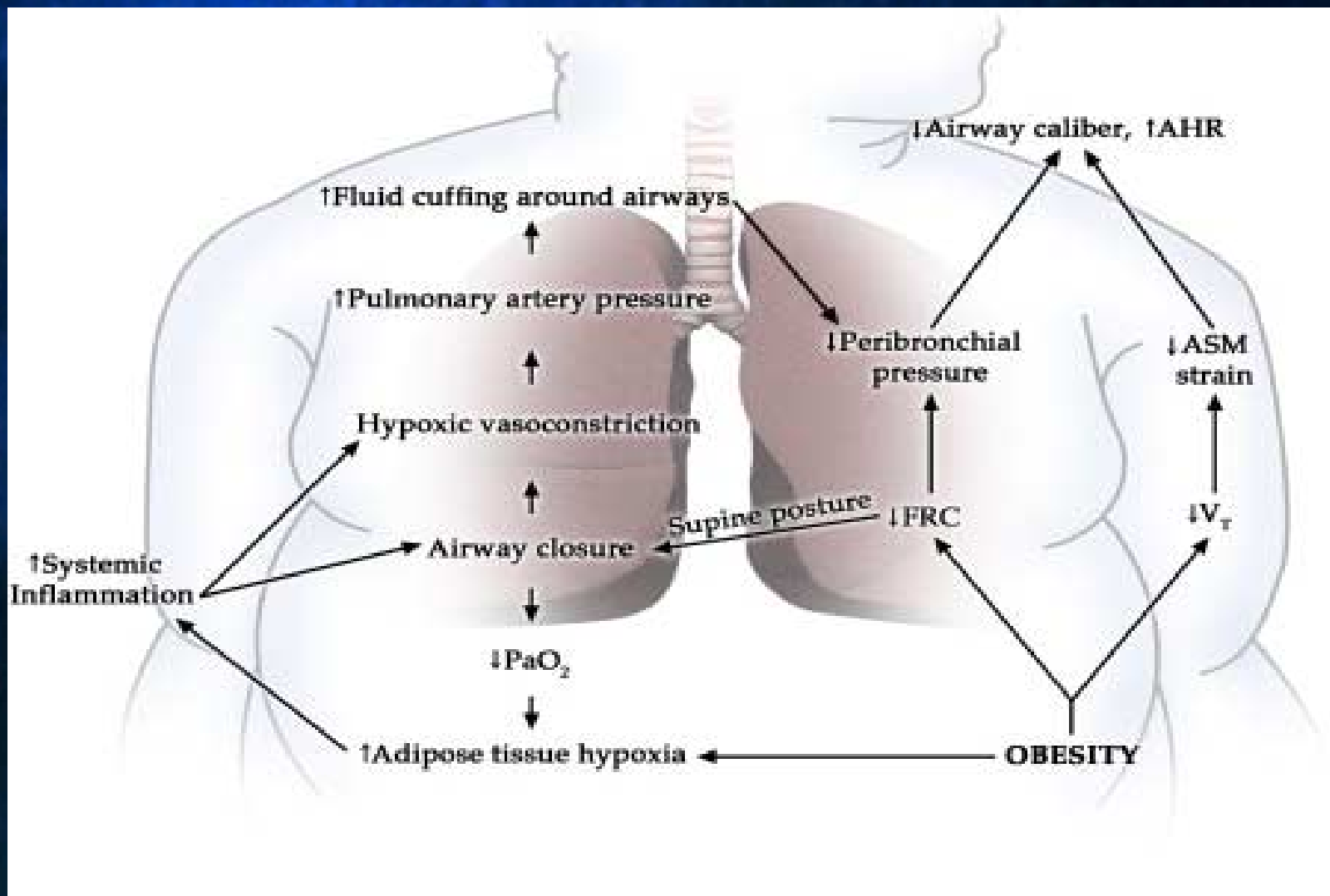
- Initial consultation
- 2-4 week first follow-up, continued until patient “controlled”
- Controlled patients: q 4-6 months
- Often use the ACT test
- Step up or step down medications
- Patient education: on-going process
- Assess compliance, inhaler device technique
- Encourage and compliment!

# Patient Education

- Something at every visit
  - “Pathophysiology 101”
  - Inhaler techniques
  - Peak flow meters
  - “Medications 101”
  - Environmental Controls
  - Triggers
  - Danger signs and symptoms
  - Written asthma action plan

# Comorbid Conditions

- Rhinitis & Sinusitis
  - “One Airway” Model
- Gastroesophageal reflux
- Allergic bronchopulmonary mycoses
- Tobacco abuse
- Depression
- Obesity
  - Mechanical and proinflammatory effects



Source: Shore. "Obesity and asthma: Possible mechanisms" *J Allergy Clin Immunol* 2008; 121(5): 1087-1093

# Medication Management

- NHLBI Step Management
  - “Complicated simplicity”
- “Preventors”
  - Corticosteroids
  - Leukotriene modifiers
  - Combo steroid/long acting bronchodilators
  - Methylxanthines (theophylline)
  - Immunomodulators (Xolair, allergy vaccines)
- “Rescuers”
  - Beta-agonists
  - Anti-cholinergics
  - Corticosteroids (oral and high dose inhaled)

# Allergy Vaccines or “Shots”

- Effective for allergic asthma/rhinitis
  - Used in United States for 100 years
- Progressive exposure to proven allergens over time
- Develop immunologic “tolerance”
  - Pollens, molds, animals, dust mites all possible
- Can prevent progression to allergic asthma in rhinitis patients
- Can reduce/eliminate medication need
- Cost effective
- “Small risk of great big reaction”

# Inhaler Devices

- Metered dose inhalers (MDI)
- Breath actuated inhalers (BA)
- Dry powder inhalers (DPI)
- Small volume nebulizers (SVN)
- Adjuncts
  - Valved holding chambers (Aerochamber, etc)

# Inhaler Devices - The “Basics”

- Teach your patients how to use them
- Observe your patients using them
  - Assume the worst!
- Age appropriate device and patient interface
  - No DPIs < 4-5 years of age
  - No MDIs < 8 or > 80 years of age w/o spacer device
  - Mask for SVN and spacer < 4 years of age
    - No “blow by” nebulization

# Inhaler Device Choice: My Preferences

- Dry powder over MDI if age appropriate
  - Lung delivery more likely
  - Exception: damp environments
- Age factor
  - < 4 years: SVN or MDI w/ valved holding chamber...always use mask!
  - 4-8 yrs: DPI or MDI w/ VHC
  - 8-"fairly old": DPI, breath actuated, MDI
  - "Very old": DPI, SVN, MDI w/ VHC, BA

# How the RT Can Help “Our” Patients

- Hospitalized patient
  - Educate them
    - Exacerbation early warning signs
      - What went wrong?
    - Inhaler device technique
    - Triggers
    - Action Plan Benefits and Use
    - Medication 101
  - Appropriate inhalation device?
  - Think “undiagnosed” comorbidity
  - Recommend specialty evaluation

# Specialist Referral

- Signs or symptoms atypical
- Problems with differential diagnosis
- All step 3-4 and above patients
- Immunomodulator candidates
  - Significant allergic triggers
- Need specialty testing
- Hospitalized for asthma

That's All Folks!

---

Questions...