**18. Asthma By Ilana Ramer Bass**

**Overview:**

**Asthma=** chronic inflammatory disorder of the airways characterized by bronchial hyper-responsiveness, or the tendency of airways to narrow excessively in response to a variety of stimuli

* Typically diagnosed at a young age (75% before age 7) but can develop at any age
* History— recurring, episodic symptoms of dyspnea, wheezing, cough and presence of triggers
	+ Common triggers: exercise, cold air, allergens (pollen, trees, grass, weeds), pets, mites, molds, cockroaches, rodents, moisture/dampness
* Exam findings: wheezing; can also look for nasal polyps, skin changes consistent with atopic dermatitis

**Evaluation:**

* ****History or presence of respiratory symptoms that are episodic + documented variable expiratory airflow obstruction
* **Pulmonary Function Testing—used to:**
	+ Calculate FEV1/FVC ratio
		- Restrictive- normal ratio and FVC <80% predicted
		- Obstruction- reduced ratio (0.70) or scooped/concave appearance to expiratory portion of flow-volume loop
	+ Assess reversibility of obstruction with administration of a bronchodilator
	+ Characterize severity of obstruction (% of normal predicted value)
	+ If normal baseline airflow, can use bronchoprovication testing (methacholine) to stimulate bronchoconstriction and prove hyperresponsiveness
* **Determine Severity:**
	+ *Intermittent*= <2 days/week and <2x/month nighttime awakenings
		- Use SABA < 2 days/week
	+ *Persistent*
		- Mild: >2 days/week but not daily and 3-4x/month nighttime awakenings
		- Moderate: daily symptoms and >1x/week nighttime awakenings but not nightly
		- Severe: throughout the day, nightly awakenings, need to use SABA several times/day

**Management:**

* 4 components:
	+ Routine monitoring of symptoms and lung function
		- Monitor with peak expiratory flow (PEF)
	+ Patient education
		- Must understand how to use inhalers properly!!
	+ Controlling environmental triggers
	+ Pharmacologic therapy
* Step Therapy:

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\*\*SABA= albuterol

\*\*ICS= beclomethasone, budesonide, flunisolide, fluticasone, triamcinolone acetonide, mometasone

\*\*Combination ICS + LABA= advair (fluticasone/salmeterol) or symbicort (budesonide/fomoterol)

\*\*LTRA= leukotriene receptor atagonists such as montelukast (singulair)

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**Asthma at IMA:**

* Suspect asthma? Order: “Respiratory Flow Volume Loop” and insert smartphrase “.spirometry” in the comments section and direct patient to the MA
* If you need full PFTs, must order: “Pulmonary Function test” and specific which components (spriometry, lung volumes, DLCO, with/without bronchodilator) and provide patient with phone number to schedule
* When to refer:
	+ Pulmonology if diagnosis is uncertain, asthma is difficult to control, or frequent exacerbations/hospitalizations
	+ Allergy/Immunology if allergic triggers need further evaluation

**Social Determinants of Health:**

* Higher rates of asthma in low-income neighborhoods/public housing due to poor air quality
* East Harlem is ranked #1 in NYC for asthma ER visits for children (71.6 per 1,000 children)