

## Exercise induced airway obstruction

- **Exercise induced bronchospasm (EIB)**
  - EIB is preferred to exercise-induced asthma because exercise is a trigger and not a cause for asthma
    - 20% of pts with EIB do not have asthma
  - Etiology
    - Asthma
    - Respiratory tract infection
    - A prolonged high-minute ventilation in the setting of cool and dry air
      - For example: long-distance running in cold weather
      - Commonly begins a few minutes after exercise, generally peaks within 10 to 15 min, and resolves by 60 min
  - Diagnosis
    - Spirometry: decrease of 10% or more in FEV<sub>1</sub> is considered positive
      - Exercise challenge is the most direct way
      - The EVH test (inhaling a dry gas mixture containing CO<sub>2</sub>) is an indirect bronchoprovocation test
    - Pts with EIB may test negative with methacholine challenge
  - Treatment:
    - Prophylactic use of a short-acting  $\beta$ -agonist 5 to 20 min before exercise
    - A physical warm-up before the planned exercise and wearing a face mask in cold weather
    - Daily leukotriene receptor antagonist or inhaled corticosteroid are ineffective
- **Inducible laryngomalacia**
- **Inducible laryngeal obstruction** - previously known as vocal cord dysfunction
  - Both are unresponsive to short-acting  $\beta$ -agonist treatment and can be diagnosed with laryngoscopy with videostroboscopy