

# Management of dyspnea

# dyspnea

- Difficult breathing as perceived by the patient
- Dyspnea is unpleasant or uncomfortable breathing. It is experienced and described differently by patients depending on the cause.

# Why is dyspnea a severe symptom?

- Because of these severe and life-threatening underline causes
- Because is frequently connected with respiratory failure

# Frequent Causes of acute\* dyspnea:

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| <u>Asthma, bronchospasm, or reactive airway disease</u>                                    | Wheezing and poor air exchange that arise spontaneously or after exposure to specific stimuli (eg, allergen, URI, cold, exercise)<br>Often a preexisting history of reactive airway disease  |
| <u>Foreign body inhalation</u>   | Sudden onset of cough or stridor in a patient (typically an infant or young child) without URI or constitutional symptoms  |
| <u>Pneumothorax</u>  | Abrupt onset of sharp chest pain, tachypnea, diminished breath sounds, and hyperresonance to percussion<br>May follow injury or occur spontaneously (especially in tall, thin patients and in patients with COPD)  |
| <u>Pulmonary embolism</u>  | Abrupt onset of sharp chest pain, tachypnea, and tachycardia<br>Often risk factors for pulmonary embolism (eg, cancer, immobilization, DVT, pregnancy, use of oral contraceptives or other estrogen-containing drugs, recent surgery or hospitalization, family history) |
| <u>Toxin-induced airway damage (eg, due to inhalation of chlorine or hydrogen sulfide)</u> | Sudden onset after occupational exposure or inappropriate use of cleaning agents   |
| <u>Acute myocardial ischemia or infarction</u>   | Substernal chest pressure or pain that may or may not radiate to the arm or jaw, particularly in patients with risk factors for CAD  |
| <u>Anxiety disorder causing hyperventilation</u>   | Situational dyspnea often accompanied by psychomotor agitation and paresthesias in the fingers or around the mouth<br>Normal examination findings and pulse oximetry measurements  |

\* occurs within minutes of triggering event

*Credits: MSD MANUAL*

*<https://www.msdmanuals.com/professional/pulmonary-disorders/symptoms-of-pulmonary-disorders/dyspnea#>*

# Acute respiratory failure

- Any impairment of oxygenation or ventilation
- Inability of the respiratory system to meet the metabolic needs of the tissues

## Table 1. Causes of Respiratory Failure

### Disorders Primarily Involving the Lung

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- Pneumonia
- Bronchiolitis
- Asthma
- Cystic fibrosis

### Mechanical Impairment of Ventilation

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- Neuromuscular disease (myopathies, Guillain-Barré syndrome)
- Chest wall trauma (flail chest)
- Large pleural effusion
- Restrictive lung disorders with involvement of the respiratory muscles

### Airway-narrowing Disorders

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- Foreign body
- Laryngeal web
- Vascular ring

### Failure of the Central Nervous System to Control Respiration

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- Trauma
- Infections
- Ingestions
- Genetically determined conditions (eg, congenital hypoventilation syndrome)
- Tumors

### Failure to Meet Increased Oxygen Needs of the Tissue

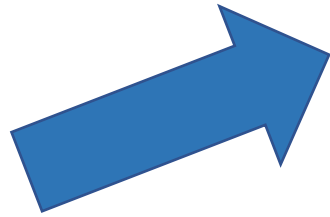
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- Septic shock

# Acute respiratory failure severity stratification

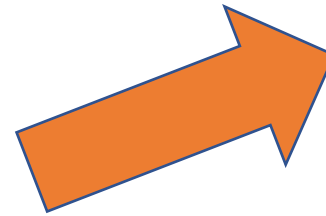
## **MILD**

Talks in phrases  
Not agitated  
Respiratory rate increased  
Accessory muscles not used  
Pulse rate < 120  
O2 saturation 90-95%



## **SEVERE**

Talks in words  
Agitated  
Respiratory rate >30/min  
Accessory muscles in use  
Pulse rate > 120  
O2 saturation <90%



## **LIFE -THREATING**

Drowsy  
Confused  
Silent chest