



The traditional diagnosis and treatment of respiratory diseases

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Canon of Medicine (Al-Qanun fi al-Tibb)

- ▶ a magnum opus from the great medieval Persian physician (Abu Ali Sina) **Avicenna (981-1037 AD)**
- ▶ which was taught for **600 years** as a standard text of medicine across medieval Europe.
- ▶ the respiratory diseases mentioned in the Canon of Medicine are mainly **described or classified** by Avicenna on the basis of **gross medical examination and its interpretation**.



Canon of Medicine (Al-Qanun fi al-Tibb) and respiratory diseases

- Respiratory diseases are discussed in depth in volume 3 of the Canon of Medicine.
- discusses in detail the functional anatomy and physiopathology of the pulmonary diseases that were known in that time.
- signs and symptoms of various respiratory diseases and conditions, described in the **five chapters of volume 3**
 - (breathing, voice, cough and hemoptysis, internal wounds and inflammations and principles of treatments)


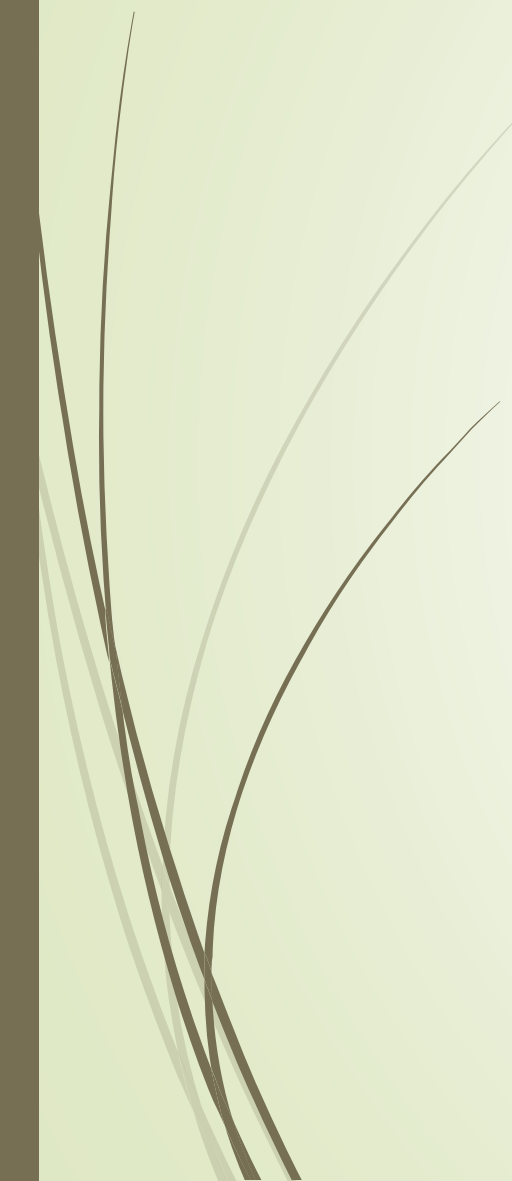
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- Avicenna (980-1037 AD), described different modes of breathing including
 - large and small,
 - deep and shallow,
 - fast and mild,
 - different and frequent,
 - vast and narrow,
 - easy and difficult,
 - strong and weak, and
 - warm and cold.

Table 1. Chapter titles and a brief description of the respiratory diseases in the *Canon of Medicine*.

No.	Chapter title	Brief description
1	Breathing	This chapter deals initially with the anatomy of the larynx, trachea, lungs and diaphragm. Later, Avicenna describes normal breathing and various types of abnormal breathing patterns seen in different diseases. In the end, he discusses asthma and its treatment
2	Voice	Avicenna describes the production of voice and its disturbances in various disease conditions
3	Cough and hemoptysis	This chapter deals with cough, its various causes and treatment. Hemoptysis is dealt with separately, whereby its associated signs and symptoms, causes and treatment are discussed
4	Internal wounds (infections) and the inflammations of tissues surrounding the chest wall*	This chapter deals with tissues around lungs and their diseases and then discusses pneumonia and pleuritis. Avicenna also discusses tuberculosis and its signs and symptoms
5	The practical principles of the common treatment of diseases of lungs and tissues around it	This chapter deals with the treatment of tuberculosis, pneumonia and pleuritis

*Avicenna classified the diseases of the respiratory system outside the lung parenchyma as the diseases of tissues surrounding the chest wall.



Avicenna approach on lung diseases

- A quick glance at the Canon of Medicine shows that
 - Avicenna relied heavily on **history, physical examination,**
 - signs and symptoms,
 - diet and lifestyle,
 - environmental factors,
 - individual temperament of the patient and
 - visual observation in the diagnosis, treatment and prevention of diseases

Table 2. Effects of diet and environmental factors on respiratory diseases as mentioned in the *Canon of Medicine*.

Disease/Symptom	Aggravating factors	Relieving factors
Asthma [<i>rabv</i>]	Opium, bathing especially after meal, excessive sleep, especially after meal, drinking of water or alcohol after a meal, psychological factors	Chest massage, laxative, exercise
Hemoptysis	Garlic, onion, grief, screaming loudly, severe persistent cough, cold air, intercourse, alcohol	Butter, fresh and salt-free cheese, narcotics (fresh opium), diluted vinegar
Pleuritis [<i>zaat-ul-janb</i>]	Screaming loudly, autumn season and winter season	See treatment
Pneumonia [<i>zaat-ur-rieh</i>]	Old age	See treatment
Pulmonary tuberculosis [<i>sil</i>]	Autumn season	See treatment

Table 3. Chief presenting symptoms of major respiratory diseases mentioned by Avicenna.

Disease	Chief symptoms
Asthma	Dyspnea, rapid short breathing, severe asphyxia-like difficult breathing, breathing with exhaustion
Pleuritis	Fever, sharp pain in the flanks, dyspnea, cough
Pneumonia	High grade fever, dull pain, dyspnea, cough, sputum and a less frequent hemoptysis, unconsciousness
Pulmonary tuberculosis	Chronic fever that is more severe at night, sweating, sputum that maybe bloody, dyspnea, severe weakness

Medicinal plant	Common name	Traditional name	Part used	Pharmacological effect	Temperament
<i>Hyssopus officinalis</i> L.; <i>Nepeta Bracteata</i> Benth.	Hyssop	Zoofa	Flower	Anti-fungal, Anti-microbial	Hot and Dry
<i>Adiantum capillus-veneris</i>	Maidenhair fern	Parsiavoshan	Leaf		Hot and Dry
<i>Glycyrrhiza glabra</i> L.	Liquorice	Shirin-bayan	Root	Anti-microbial	Hot and Dry
<i>Foeniculum vulgare</i> L.	Fennel	Razianeh	Seed	Anti-microbial, Bronchodilator	Hot and Dry
<i>Trigonella foenum-graecum</i>	Fenugreek	Shanbelileh	Leaf, Seed	Mucolytic	Hot and Dry
<i>Cydonia oblonga</i> Miller	Quince	Safarjal, Beh	Fruit	Anti-allergic	Cold and Dry
<i>Dorema ammoniacum</i> D. Don.	Ammoniacum	Oshagh	Resin	Anti-microbial, Antifungal	Hot and Dry
<i>Viola odorata</i> L.	Sweet violet	Banafsheh	Flower	Anti-microbial	Cold and Wet
<i>Althea officinalis</i> L.	Althea	Khatmi	Flower	Anti-inflammatory	Temperate
<i>Crocus sativus</i> L.	Saffron	Za'feran	Flower		Hot and Dry